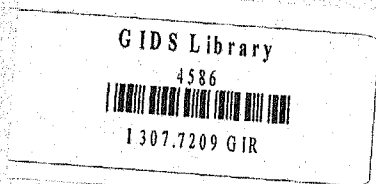


INTEGRATED AREA DEVELOPMENT PLAN  
OF  
NADIGAON BLOCK

88

SUBMITTED TO  
THE UTTAR PRADESH DEVELOPMENT SYSTEMS CORPORATION LTD.



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GIRI INSTITUTE OF DEVELOPMENT STUDIES  
LUCKNOW

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## Chapter 1

### INTRODUCTION

#### 1.1 Planning and Development Route Adopted

Radical social transformation was the goal set before themselves by the Indian rulers in the post-independence period. The political model preferred was a third way combining opposing capitalist and communist ideologies. The generalized strategy used was combination of goals of growth and reduction of disparities, avoidance of violence and regimentation of revolutionary change, pursuit of goals of social transformation outside the arena of party politics, indirect attack on the normative and institutional foundations of traditional social, economic and political hierarchies, and establishment of new institutions at the grass root levels to generate self-consciousness and to be used by the peasantry to exert pressure from below for enforcing radical social reforms within democratic political system.<sup>1</sup>

In this schema, plans were formulated at the national level fixing sectoral targets of growth and financial allocations, detailing the organisational structure and methodologies to be adopted in their implementation at the local levels.

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<sup>1</sup>For an insightful discussion on this theme, see Francine R. Frankel, India's Political Economy : 1947-1977, (New Delhi, Oxford University Press, 1978).



## Chapter 1

### INTRODUCTION

#### 1.1 Planning and Development Route Adopted

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No consideration was given to the local resources, and needs in the plan formulation and implementation. The delivery system, consisting of the political wing, the development bureaucracy of the blocks and newer institutions concerning input, output, service infrastructure, and representing the institutionalized inequalities of the social structure, ended up in only further legitimising and strengthening the vested interests.<sup>2</sup> The benefits of the 'development' schemes failed to percolate down to the entire people. By the end of the Third Five Year Plan, the Planning Commission and the Government of India felt the need to attempt some different solutions. As a result, target group (i.e. SFDA, MFAL, etc.) and areas specific (i.e. DPAP, CAD, Hill Area Development, Tribal Area Development, etc.) programmes were introduced. This generalized dissatisfaction with the approach and methodologies of national planning also led to some moderate changes in the state level planning mechanisms. A number of states established regional planning bodies. The idea of using the district as an unit of planning was also experimented. However, it was only in the middle phase of the Fifth Five Year Plan when a totally different set of people came to control the political and planning mechanisms

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<sup>2</sup>For a critical analysis of these issues, see H.S.Verma, A Critical Review of the Community Development Programme in India, (Ahmedabad, CMA, Indian Institute of Management, 1975); Post-Independence Change in Rural India, (New Delhi, Inter-India Publications, 1980); and Task Delivery Systems for the Rural People : Historical Probings into Their Character and Efficacy (forthcoming).

at the centre around 1977 and a new set of planning values came in vogue that micro level planning at the block level came in to prominence.

## 1.2 Rationale for Block Level Planning

The rationale behind formulation of block level plans is:

- a. better perception of basic issues at the local levels with the specific attention focussed on the poor and formulation and implementation of programmes for their benefit;
- b. improvement of productivity and employment potential through better exploitation of growth potential of the area;
- c. participation of the people themselves in the planning process; and,
- d. optimising the mobilization of local resources, human and natural.

## 1.3 Specific Objectives of Nadigaon Block Plan

This integrated area development plan for Nadigaon block has the following specific objectives:

- a. to identify the major constraints to development by studying the resource structure, its present utilization and future potential;
- b. to review the ongoing programmes in an effort to identify the growth inhibiting factors;
- c. to chart out a five year strategy of development of the block keeping (a) and (b) in view;
- d. to identify the central places in the block and their functional gaps to be plugged for integrated area development; and,
- e. to propose an indicative sectoral plan to meet the set norms, targets, and generate additional employment and income.

#### 1.4 Methodology Employed

After being commissioned, the formulating agency first familiarized itself with the Nadigaon block, and held a preliminary round of discussions with the officials of various functional departments at Lucknow, Kanpur, Jhansi, Orai, Konch and Nadigaon and also met a large number of people from its constituent villages. The second stage involved data collection about various aspects from both primary and secondary sources. Specific schedules were designed and used for filling in the data from the household heads, village officials, and officials at the Tehsil, Block and District headquarters. Apart from making inventory of resources, and the nature of their use, this exercise also encompassed discussion of the problems and the solutions as seen by the villagers. A preliminary examination of the collected data made it obvious that some of the data would have to be reconciled, rearranged and systematized.<sup>3</sup> They were processed and analysed thereafter. This analysis yielded the broad historical, physical, demographic and economic profile of Nadigaon block. It was, then, possible to identify constraints to the development of Nadigaon block on the one hand, and the perspective of and strategy for its development on the other. The central places

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<sup>3</sup>On some of the items, data had to be obtained from two-three sources and quite often they did not tally.

in the block were then identified along with their available functions and functional gaps. Finally, an integrated plan has been prepared giving sectoral targets, outlays, and employment potential and benefits.

### 1.5 Chapter Plan

This plan is spread into eight chapters. The historical context, rationale for block level planning, specific objectives of the Nadigaon plan, and methodology employed are indicated in the first chapter. The second chapter presents the historical, physical, demographic and economic profiles and reviews the ongoing programmes identifying the factors retarding growth of Nadigaon. The third chapter outlines the strategy suggested for developing Nadigaon block. The fourth chapter identifies the central places in the block. Indicative plan, broken into sectoral schemes, is given in the fifth chapter. Chapter six provides the employment generating potential of the proposed programmes. The seventh chapter gives financial magnitude of the plan. Organisational framework for the implementation of this plan is indicated in the eighth chapter.





## Chapter 2

### EXISTING PROFILE OF THE BLOCK

#### Physical Profile

##### 2.1 Historical Background

Nadigaon block forms part of Konch tehsil of Jalaun district, a tract which has always been in the forefront of most crucial historical events which took place in the medieval, British, and modern periods of history in Bundelkhand region. However, the history of the Chandel kings of Bundelkhand is much more closely associated with the districts of Banda, Hamirpur and Jhansi than the territory now constituting the present district of Jalaun.

In or about 1182 A.D. Prithviraj invaded the Chandel kingdom and a battle was fought at Sirswagarh on the Pahuj river, an area on the outskirts of present Nadigaon block. This area is also supposed to have been the final battle ground between Prithviraj and Parmal's troops. During the medieval period, towards the end of 13th century, Nadigaon and Konch tehsil formed part of Sohanpal's territory. In 1611 A.D. the mahal of Konch was the only portion not in the actual possession of the Moghuls. However, from the fact that the Bundelas had made it their capital, it is presumed that they were paying revenue to the Moghuls. During the reigns of Shah Jahan (1623 - 1658 A.D.) Jujhar Singh, the reigning Bundela, revolted. He was defeated by the imperial troops in

1635 A.D. and forced to surrender the territories formerly in his possession. Later this tract was bestowed on Champat Rai Bundela. But when Pahar Singh, the younger brother of Jujhar Singh, offered nine lakhs of rupees for this mahal, his offer was accepted by Prince Dara and the tract was transferred to him. This act of Dara drove Champat Rai to Aurangzeb's side and when the war of succession started among the sons of Shah Jahan, he materially assisted Aurangzeb and was present at the battle of Samogarah (1658 A.D.), which placed the latter on the throne of India. In return for these services, Aurangzeb gave Champat Rai a command of 12,000 men and a jagir from revenue, extending from Orchha to Mol Kanar, and thence to Yamuna which presumably included the present Jalaun district. This command was very soon resigned by Champat Rai on account of his failure to assist the Emperor against Shahshuja. In 17th century Chhatrasal (son of Champat Rai), after occupying the major portion of Bundelkhand, turned his attention to the region covered by the present Jalaun district. He ravaged this area to ruins.

On Farrukhsiyar's accession in 1713 A.D. this tract in Bundelkhand was given in jagir to Nawab of Farrukhabad, one of the officers in his court. The Nawab, unable to manage it himself, posted Daler Khan for its administration. After 1727, Konch (including Nadigaon) was handed over to Holkar to manage it on behalf of Baji Rao and it remained in his un-

interrupted possession till 1805. In 1797, the Sindhia deputed Ambaji Ingle to over run the Bundel states which had rebelled and Konch was captured by him. After 1803 Konch came in British possession when Shepherd under the direction of Baillie, occupied it. The ruling Bundel king Shamsher Bahadur was induced to tender his allegiance by promise of a pension of rupees four lakhs. In May 1804, Fawcett wanted to capture the Amanta Malya fort, about 8 kms. from Konch. He was defeated in the battle which raged. The Englishmen attacked again and the Sindhia was forced to surrender possessions in this tract and enter into a treaty with the British. Under the terms of treaty, although the administration of Konch was to be returned in the hands of the collector of Bundelkhand, its revenues were to be paid to Holkar. After 1842, Jalaun became a British district. In 1852, in a re-organisation of the territories, Mahoba and Jaitpur, forming part of Jalaun then, were given to Hamirpur district and Kalpi and Konch, which were not part of it, were received in exchange.

In 1857 Konch and Nadigaon areas led the revolt against the British. The chief of Gursarai took possession of Konch town and appropriated revenue from the farmers. It was difficult for the Tehsildars to stop this. In 1858, the British decided to stop the freedom fighters who were moving towards Kalpi. Laxmi Bai and Tantya Tope had collected arms

ammunition, and an army of 7000 men at Konch fort, and in May 1858 in a major battle the British succeeded in overwhelming the freedom fighters.

In the beginning of twentieth century, when nationalist movement was gathering momentum, activists from Konch tehsil jumped in the fray. Konch became the nerve-centre of nationalist activity, with a neatly organised network of workers, a Committee, and even a newspaper. Several meetings and conferences were organised.

## 2.2 Location and Topography

Lying in latitude  $26^{\circ} 7' N$  and longitude  $79^{\circ} 11' E$  Nadigaon settlement is situated on the bank of Pahuj river. It is 25 kms. north-west of Konch (which is the headquarter of the Tehsil of the same name and of which Nadigaon block forms part) and 55 kms. north-west of Orai (the district headquarters of Jalaun district). Nadigaon is the largest of nine blocks in Jalaun in terms of geographical area occupied and number of constituent revenue villages. It is bounded by Madhogarh and Jalaun blocks in the north, Ait block in the east, Moth and Bamora blocks (of Jhansi district) in the south and the dacoit infested Datia and Bhind districts of Madhya Pradesh on the west side across the river Pahuj. It is said that Nadigaon was founded by Raja Bir Singh about one thousand years ago. The title of Raja was retained by his descendents

although the tract itself became part of the British empire. The fort of Raja Bir Singh still stands in Nadigaon although in a very dilapidated condition.

### 2.3 Natural Regions

The block can be divided into three natural regions on the basis of its physical features and topography. The first of these is constituted by the ravine belt along the banks of river Pahuj. This belt encompasses 25 villages in varying degrees from Navli (8), Gidwasa (8), Maheshpura (4), Jaganpura (1), and Kailiya (4) VLW circles. The belt itself is cut into a large number of ravines and nullahs upto a considerable distance. The ravines are slopy and are mixture of Kankar. Major part of the ravineous belt lacks vegetation: wherever it exists, it is mostly small shrubs. The soil of this tract is generally Kankar mixed with calcareous pieces and occasionally yellow alluvial Padua. It is not very fertile and requires considerable quantities of irrigation water for raising good crops. The second tract is comprised of high lands on the borders of the ravines and valley of Pahuj river. This area accounts for roughly 20 villages. Its soil is light coloured, hard and of poor fertility. The remaining part of the block comprising of Bangra, Khaksis, Randhar, Kailiya, Titra, and Kanasi VLW circles forms the third tract which is flat basin having black clacareous Kabar soil considered to be the most fertile. Its moisture retention capacity is good.

## 2.4 Administrative Division

For the implementation of development plans, Nadigaon block has been sub-divided into ten VLW circles (Map 1). These circles are : 1. Bangra, 2. Khaksis, 3. Rendhar, 4. Navli, 5. Gidwasa, 6. Maheshpura, 7. Jaganpura, 8. Kailiya, 9. Titra, and 10. Kanasi. The composition, numerical strength of inhibited and uninhibited villages comprising these circles and their geographical area are detailed in Tables 2.1-2.3. Titra, Kanasi, Maheshpura and Bangra emerge as the larger circles in terms of total number of villages. The number of uninhibited villages is comparatively larger in the ravineous belt VLW circles than those in the flat plains belt. The number of inhibited villages in the block was 145 in 1971 and 143 in 1979-80. One village, Daang Kherai in Gidwasa circle was amalgamated with Nadigaon when Nadigaon was declared a Notified Area in 1979-80. The total number of inhibited villages in the block is, therefore, only 142. In terms of geographical area, Titra (17.1%), Bangra (14.3%), Kailiya (12%) and Navli (11.2%) are the larger circles : the area of Jaganpura (6.4%), and Gidwasa (6.9%) is somewhat smaller.

In pure normalization of the work-load terms, Titra and Bangra circles, lying in the south-eastern and north-eastern parts of the block, appear far too large areas for single VLWs



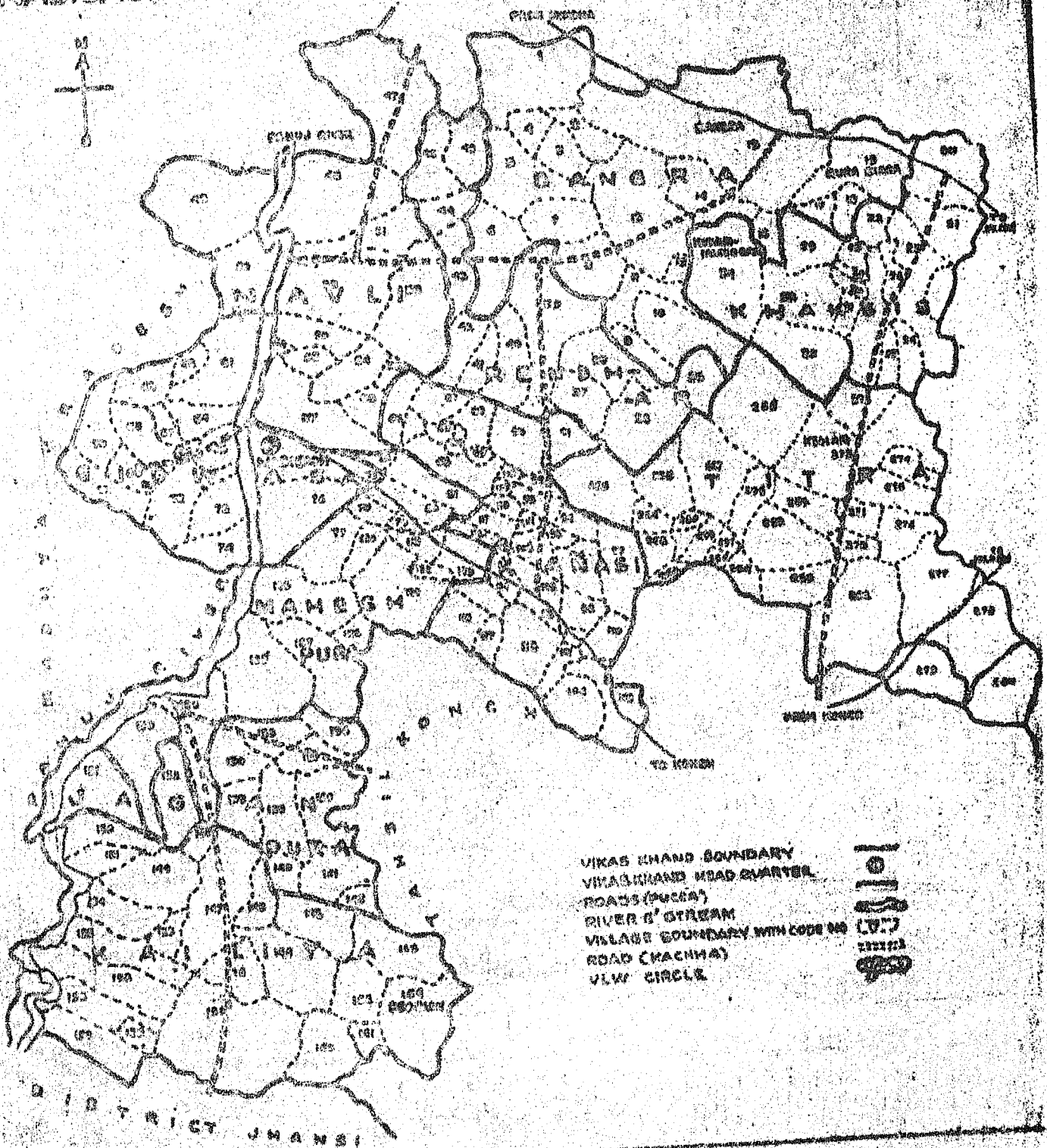






Table 2.1

Names of Inhibited and Uninhibited Villages in  
Different VLW Circles

VLW Circle	Inhibited Villages	Uninhibited villages
Bangra	Rudawali, Gaderna, Magrol, Itora Madhogarh, Dabar Madhogarh, Maragpura, Hasupura, Bahbalpura, Ingui Madhogarh, Sarai Madhogarh, Singawali (de-populated after 1979-80), Kuthonda, Torna, Bangra, Rura Sirsa.	Bhampura, Chandauli, Kandilpur, Bedhari.
Khaksis	Kamsera, Pardhani, Khaksis, Diha, Mahatwani-Madhogarh, Dhanja, Kudari Mudhogarh.	Birpura, Kalyanpura, Mukundpur, Darapur, Ram Nagar, Hazratpura, Naseerpur.
Rendhar	Lariyapura, Jugrajpura, Bhagwantpura, Burhauili, Rendhar, Kanharapura, Kunwarpura Jhan Singh, Chhiriya Khurd, Kurra Umri Madhogarh, Barauli, Rora.	None
Navli	Manpura, Parawar, Lahudi, Andhora Birgawan Madhogarh, Navli, Kusmara, Parasand, Isuri, Ghilor, Ruppura, Chandupura.	Badi Daang, Kheda.
Gidwasa	Dang Bhakrol, Kemra, Bhakrauli Arjunpura, Kurcholi, Sajera, Baoli, Gidwasa, Dang Khajuri, Nadigaon, Daang Kherai (amalgamated with Nadigaon in 1979-80).	Daang Chhawliya, Daang Gutai, Gatayya, Daang Sajera.
Maheshpura	Alampur, Lalpura, Sikanderpur, Ganeshpura, Jakhela, Dongarpur, Rajepura, Basit, Kakroli, Salaiya Khurd, Maheshpura, Mau, Kemra.	Sikri Khurd, Sipura, Barkhera, Jaitpura, Simaura, Mithanpur, Sirtajpura, Bivani, Tatarpur.

Table 2.1 (contd.)

VLW Circle	Inhibited villages	Uninhibited villages
Jaganpura	Singhpura, Larhupura, Pachipura Khurd, Budhera, Jaganpura, Mansukhpura, Dhorpur, Mawasa, Khutela.	Budhiya, Shahpura, Dudhai.
Kailiya	Chamaruwa Khurd, Barhal, Khilli Konch (de-populated after 1979-80), Beona, Jaitpura, Aibra, Benda, Dabar Konch, Unchagaon, Chatsari, Salaiya Buzurg, Kailiya, Pipri Kalan, Dhera, Kudaiya, Padauri, Deogaon.	Narayya, Garhi, Bilhata, Dadpura, Jagdupura.
Titra	Dhanora, Titra Khalilpur Khet, Khera Benda, Titra Khalipur Parasram, Gangthara, Beona, Jhilra, Ranipura, Deori, Chittarpura, Seoni Khurd, Rura, Tajpura Sani, Gobardhanpura, Kherawar, Sulakhna, Birora, Bhedpura Madhogarh, Keolari, Hindokhra, Karhahiyapur, Badaua, Khoa, Rawa, Bhend.	Raipura, Harsonipura, Ratanpura Konch, Champatpura.
Kanasi	Mohammadpura, Lahai, Sikri Buzurg, Pajoniya, Jawakpura, Akniwa, Barha, Seoni Buzurg, Kherai, Sadupura, Khurd, Mahalua, Tumra, Adlispura, Kanasi, Katkari Buzurg, Kanhari, Masudpura, Chak Dhai, Jara, Tilokpura, Kailiya Khurd.	Salempura, Gharnaauri, Amkheda, Antrapuri, Babupura, Katkari Bhim, Katkari Bhog, Rampura, Karmara.

Source : Office of the District Development Officer, Jalaun for 1971 and primary survey conducted by the formulating agency for 1979-80.

Table 2.2

Inhibited and Uninhibited Villages in Different  
VLW Circles

VLW Circle	Number of villages				Total	
	Inhibited		Uninhibited		Number	Percentage
	1971	1979-80	1971	1979-80		
Bangra	15	14	4	5	19	9.9
Khaksis	7	7	7	7	14	7.3
Rendhar	12	12	-	-	12	6.3
Navli	12	12	2	2	14	7.3
Gidwasa	12	11	4	4*	16	8.3
Maheshpura	13	13	9	9	22	11.5
Jaganpura	9	9	3	3	12	6.3
Kailiya	17	16	5	6	22	11.5
Titra	25	25	4	4	29	15.1
Kanasi	23	23	9	9	32	16.7
Nadigaon Block	145	142	47	49	192	100.0

\*Daang Kherai, although inhibited even after 1979-80, has been amalgamated with Nadigaon consequent on the declaration of the later as a Notified Area.

Source : For 1971 : District Census Handbook : Jalaun, (Lucknow, Directorate of Census, 1972), pp. 54-65, and 70-73; and for 1979-80 primary survey carried out by the formulating agency. Unless stated otherwise, all subsequent Tables - wherever data for both points are used have the same source.

Table 2.3

## Area of Different VLW Circles (1971)

Sl. No.	VLW Circles	Area (in Square Km.)	
		Actual	Percentage
1.	Bangra	78.032	14.3
2.	Khaksis	43.520	7.9
3.	Rendhar	38.596	7.0
4.	Navli	61.520	11.2
5.	Gidwasa	37.928	6.9
6.	Maheshpura	42.460	7.8
7.	Jaganpura	35.297	6.4
8.	Kailiya	65.462	12.0
9.	Titra	93.629	17.1
10.	Kanasi	51.103	9.3
Nadigaon Block		547.547	100

to operate. On the other hand, circles such as Khakasis, Jaganpura and Gidwasa appear smaller. However, as was explained to us, physical accessibility rather than the size of population was the decisive criterion on the basis of which the number of villages were decided for the VLWs working in different circles. Unless the block gets two-three bridges on the river Pahuj, and the road network is significantly or the number of VLWs is greatly increased, the present arrangement can only be marginally improved.

## 2.5 Rivers

Pahuj, the only major river in Nadigaon block, rises in Gwalior district of Madhya Pradesh, flows through a part of Jhansi district, and enters Nadigaon block at the village of Salayya Bujurg. The river forms roughly the half of western boundary of the block except at points where the block projects beyond the stream into Madhya Pradesh. It joins the Yamuna near Jagmanpur in Jalaun Tehsil. Pahuj is a smaller river than the Betwa and flows in a deep channel between high banks in a sinuous course along the western side of Nadigaon and pursues its way northwards along the border of Madhogarh block. Within 10 kms. north-west of Nadigaon town, the river flows through the earstwhile jagir of Rampura and at the village of Jaghar joins the Sindh river. The Pahuj has no tributaries in the block except Dhamn, a small stream which rises in Kailiya in the south-west and joins it near Maheshpur.

## 2.6 Forests and Minerals

The block is poor in forest wealth although it has 3889 hectares of land under forests. There are only small patches of forest scattered along the ravines of Pahuj river. Some areas, especially in the western part of the block, are overgrown with Kans and grass or scattered trees. Chief among these trees are Babul, Dhak, Karaunda, Neem, and Mahuva. The block suffers from lack of fuel-wood.

Kankar sand, used for metalling roads and making lime, is available in significant quantity in Nadigaon block. Sand and morum are found on the banks of Pahuj river. Topographically, the area on the either side of Pahuj river is undulating upto distances as far as two-three kms. and liable to considerable amount of soil erosion. To check this, gully plugging, check damming, planting of brushwood and afforestation of the area by digging trenches have been undertaken by the Forest Department. The remaining part of the block is flat. But for the absence of adequate rainfall and assured sources of irrigation in the major parts, the block could have been a major grain producing pocket for the Jalaun district.

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## 2.7 Climate and Rainfall

The climate of the block is of dry and extreme type. Its temperature varies between a high of  $47.2^{\circ}$  during summer to a low of  $0.1^{\circ}$  centigrade. The average annual rainfall of

the block is 759.8 mm (Tables 2.4-2.5). About 90 per cent of the annual rainfall in the block is received during the monsoon season (June - September) with August emerging as the month of heaviest rainfall. The highest rainfall, 160 per cent of the normal, occurred in 1905. Between 1901-1980 there were 16 years when the annual rainfall was less than 80 per cent of the normal, though only two were such consecutive years. On an average, there are 43 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the block. This number varies in different parts of the block.

### Demographic Profile

#### 2.8 Population

Total population of Nadigaon block was 91,977 in 1971 and 103,572 in 1979-80. Between the nine year period of 1971 - 1979-80, its population registered an increase of 13.2 per cent (Table 2.6). In both 1971 and 1979-80 Jaganpura VLW circle was the least populated circle whereas Titra, Bangra, and Kailiya were three largest populated circles in that order. However, in 1979-80 the percentage distribution of block population had somewhat declined in the larger VLW circles and slightly increased in the smaller ones. Nadigaon (4415), Khaksis (4212), and Bangra (3871) were three large settlements in 1971 : they still remain so in 1979-80 although the percentage increase registered in their respective populations has been of different order.



Table 2.4  
Frequency of Annual Rainfall : 1901-1980

Sl.No.	Rainfall Range (mm)	Occurance in Number of Years
1.	201 - 300	3
2.	301 - 400	2
3.	401 - 500	5
4.	501 - 600	6
5.	601 - 700	13
6.	701 - 800	13
7.	801 - 900	17
8.	901 - 1000	9
9.	1001 - 1100	6
10.	1101 - 1200	3
11.	1201 - 1300	3
Total		80

Source : Revenue Department, Jalaun District, Orai.

Table 2.5  
Time-Spread Calendar of Rains

Months of the year	Jalaun District		Nadigaon Bl ck	
	Normal Rainfall (in mm)	Average Number of Rainy Days	Normal Rainfall (in mm)	Average Number of Rainy Days
January	13.7	1.2	15.5	1.2
February	12.8	1.2	11.9	1.1
March	7.3	0.7	5.8	0.7
April	5.5	0.6	4.3	0.5
May	7.4	0.8	6.9	0.8
June	64.5	3.9	59.7	3.8
July	241.7	12.1	233.9	12.1
August	254.3	12.6	245.9	12.9
September	139.1	7.0	193.0	7.0
October	20.3	1.1	21.8	1.2
November	5.3	0.4	6.3	0.4
December	5.5	0.5	4.8	0.6
Annual	782.6	42.1	759.8	42.3

Note : 1. Average rainy day refers to the day when there is rain of 2.5 mm or more.

2. The data used is for the years 1901-1980.

Source: Revenue Department, Jalaun District, Orai.

About 58 per cent of villages in Nadigaon block were below the population of 500 in 1971; another 34 per cent were between population size ranges of 500 - 1499; the remainder was scattered in size categories extending upto 4999 (Table 2.7). This had undergone some significant changes by 1979-80. The distribution of villages below the population of 500 was now 50 per cent (a decline of 8 per cent); another 42 per cent were between the population size ranges of 500 - 1499 (an increase of 8 per cent); the remainder was claimed by other size categories now extending upto 5000 plus. Thus, there was a general movement of settlements to higher population size categories but this trend was expectedly more marked in the smaller size categories than the larger ones.

Table 2.6

## Population of Different VLW Circles

VLW Circle	Population				Percent increase recorded
	1971		1979-80		
	Frequ-ency	Perce-ntage	Frequ-ency	Perce-ntage	
Bangra	13,605	14.9	14,336	13.8	5.4
Khaksis	9,653	10.5	10,898	10.5	12.9
Rendhar	7,954	8.6	9,393	9.1	18.1
Navli	9,701	10.5	11,912	11.5	22.8
Gidwasa	8,747	10.6	10,024	9.7	14.6
Maheshpura	5,329	5.8	5,714	5.5	7.2
Jaganpura	4,347	4.7	5,225	5.0	20.2
Kailiya	10,035	10.9	12,288	11.9	22.5
Titra	14,385	15.6	14,148	13.7	-2.6
Kanasi	8,221	8.9	9,634	9.3	17.2
Nadigaon block	91,977	100.0	103,572	100.0	13.2

Table 2.7

## Distribution of Villages of Different Population Sizes

VLW Circles	Less than 200	Population Size Categories																Total Number of vi- llages	
		5000 +																	
		A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B		
Eangra	4	2	5	5	1	2	3	3	-	1	-	2	-	-	1	-	15	14	
Khaksis	-	-	1	-	3	4	1	1	1	-	-	-	-	1	1	-	7	7	
Rendhar	-	-	7	6	4	4	-	1	-	-	1	-	1	-	-	-	12	12	
Navli	2	2	2	-	4	5	3	4	-	-	1	-	-	-	-	-	12	12	
Gidwasa	3	2	4	2	4	5	-	1	-	-	-	-	-	1	-	-	12	11	
Maheshpura	6	6	1	1	6	6	-	-	-	-	-	-	-	-	-	-	13	13	
Jaganpura	2	2	4	2	2	4	1	1	-	-	-	-	-	-	-	-	9	9	
Kailiya	2	1	8	7	2	3	4	3	-	1	1	-	1	-	-	-	17	16	
Titra	8	9	9	8	4	4	2	1	-	1	2	-	2	-	-	-	25	25	
Kanasi	7	5	10	11	5	5	1	2	-	-	-	-	-	-	-	-	23	23	
Nadigaon block	34	29	51	42	35	42	15	17	1	4	5	4	2	1	2	-	1	145	142
Percentage	23.4	20.4	35.2	29.6	24.1	29.6	10.3	12.0	0.7	2.8	3.4	2.8	1.4	0.7	1.4	-	0.7	100	100

A = 1971; B = 1979-80.

## 2.9 Density

Density of population per square kilometer in Nadigaon block was 167.06 in 1971 : in 1979-80 it had become 189.15, registering an increase of 13.2 per cent (Table 2.8). Within the 10 VLW circles the density range varied between a low of 123.15 (Jaganpura) to a high of 230.62 (Gidwasa) in 1971 and in general the ravineous belt VLW circles had higher density than the other two regions in the block. In 1979-80, the density range had expanded from a low of 134.58 (Maheshpura) to a high of 264.29 (Gidwasa). Percentage increase registered in the density of population between 1971-1979/80 was highest in Gidwasa (22.8), followed by Kailiya (22.5), Jaganpura (20.2), Rendhar (18.1), and Kanasi (17.2).

Table 2.8

Density of Population of Different VLW Circles

VLW Circles	Density of population (Per square kilometer)		Percent Change Recorded
	1971	1979-80	
Bangra	174.35	183.71	5.4
Khaksis	221.80	250.41	12.9
Rendhar	206.08	243.37	18.1
Navli	157.69	193.63	22.8
Gidwasa	230.62	264.29	14.6
Maheshpura	125.51	134.58	7.2
Jaganpura	123.15	148.03	20.2
Kailiya	153.29	187.72	22.5
Titra	153.64	151.11	-2.6
Kanasi	160.87	188.52	17.2
Nadigaon Block	167.06	189.15	13.2

About 25 per cent villages had a density of population below 100 in 1971; 40 per cent were between 100-199; another 21 per cent were between 200-299; the remainder were claimed by other density categories reaching upto 400 plus (Table 2.9). In 1979-80, there was general movement of village settlements to higher density categories with only 17 per cent forming a density range below 100, about 42 per cent between 100-199, 22 per cent between 200-299; the remaining 19 per cent were distributed in other higher density categories.

## 2.10 Households

In 1971 Nadigaon block had 15,230 households. Distribution of this bulk in the 10 VLW circles was highly uneven with Bangra (15.4%), Titra (15%), and Kailiya (12.5%) claiming disproportionate shares. Jaganpura (4.9%), and Maheshpura (5.8%) had the smallest percentage of households (Table 2.10). By 1979-80, the number of households in Nadigaon block had gone up to 17,739 registering an increase of 16.5 per cent. Bangra, Titra, and Kailiya, the three larger circles, had retained their position of 1971 although the percentages of the last two had declined marginally.

The size of villages, as measured by the number households residing there, had a range reaching upto 400 plus (Table 2.11). In 1971, about two-thirds of the villages had households below 100-199, 9 per cent between 200-299; and the

Table 2.9

## Distribution of Villages in Different Density Ranges

VW Circles	Distribution of Villages in Density Ranges															
	Below 50	50 - 99	100 - 149	150-199	200-249	250-299	300-349	350-399	400 +							
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Bangra	3	2	3	4	1	3	2	2	3	1	-	-	1	-	-	1
Khaksis	-	-	-	-	1	3	1	-	2	-	3	-	-	-	-	1
Rendhar	-	-	-	2	4	2	4	4	1	2	2	-	-	-	-	-
Navli	-	-	-	2	6	3	1	1	1	2	1	1	-	1	2	2
Gidwasa	2	1	-	-	2	1	2	3	1	1	1	1	-	1	3	3
Maheshpura	4	3	2	3	1	1	-	1	1	1	-	1	1	1	-	1
Jagenpura	1	1	2	1	1	4	1	-	-	1	1	1	-	-	-	-
Kailiya	2	1	3	5	3	2	2	4	-	-	-	-	-	-	-	1
Titra	2	1	5	8	5	6	3	2	-	-	-	-	1	1	-	1
Kanasi	2	2	4	7	2	4	3	1	3	3	-	2	-	-	3	3
Nadigaon block	16	11	21	13	34	32	29	19	18	12	14	2	8	4	12	12
Percentage	11.0	7.8	14.5	9.2	23.4	22.5	17.9	20.4	13.1	12.7	8.3	9.9	1.4	5.6	2.1	2.8
															3.3	9.2

A = 1971; B = 1979-80.

About 25 per cent villages had a density of population below 100 in 1971; 40 per cent were between 100-199; another 21 per cent were between 200-299; the remainder were claimed by other density categories reaching upto 400 plus (Table 2.9). In 1979-80, there was general movement of village settlements to higher density categories with only 17 per cent forming a density range below 100, about 42 per cent between 100-199, 22 per cent between 200-299; the remaining 19 per cent were distributed in other higher density categories.

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Table 2.9

## Distribution of Villages in Different Density Ranges

VLW Circles		Distribution of Villages in Density Ranges																400 +	
Below 50		50 - 99		100 - 149		150-199		200-249		250-299		300-349		350-399		400 +			
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B		
Bangra	3	2	3	2	4	1	3	2	2	3	2	-	-	1	-	-	-	1	1
Khaksis	-	-	-	2	-	1	3	1	-	2	3	-	-	-	-	-	-	1	1
Rendhar	-	-	-	3	2	4	2	4	4	1	2	-	2	-	-	-	-	-	-
Navli	-	-	-	2	2	6	3	1	1	1	2	-	1	-	1	2	2	2	2
Gidwasa	2	1	-	1	-	2	1	2	3	1	1	1	1	-	1	3	3	3	3
Maheshpura	4	3	2	2	3	1	1	-	1	1	-	-	1	1	1	-	-	1	1
Jaganpura	1	1	2	3	1	1	4	1	-	-	1	1	1	-	-	-	-	-	-
Kailiya	2	1	4	3	5	3	2	2	4	-	-	-	-	-	-	-	-	1	1
Titra	2	1	5	6	8	5	6	3	2	-	-	-	-	1	1	-	-	1	1
Kanasi	2	2	4	1	6	2	4	3	1	3	3	-	2	-	-	3	3	3	3
Nedigaon block		16	11	21	13	34	32	29	19	18	12	14	2	3	4	12	12	12	12
Percentage		11.0	7.8	14.5	9.2	23.4	22.5	17.9	20.4	13.1	12.7	8.3	9.9	1.4	5.6	2.1	2.8	3.3	9.2

A = 1971; B = 1979-80.



Table 2.10

## Number and Average Size of Households

VLW Circles	Number of Households				Average size of households	
	1971		1979-80		1971	1979-80
	Number	Percentage	Number	Percentage		
Bangra	2343	15.4	2984	16.8	5.8	4.8
Khaksis	1597	10.5	1992	11.2	6.0	5.5
Rendhar	1266	8.3	1470	8.3	6.3	6.4
Navli	1536	10.1	1772	10.0	6.3	6.7
Gidwasa	1432	9.4	1631	9.2	6.1	6.1
Maheshpura	890	5.8	985	5.5	6.0	5.8
Jaganpura	748	4.9	834	4.7	5.8	6.3
Kailiya	1897	12.5	2202	12.4	5.3	5.6
Titra	2292	15.0	2296	12.9	6.3	6.2
Kanasi	1229	8.1	1573	8.9	6.7	6.1
Nadigaon Block	15,230	100	17,739	100	6.0	5.8

rest between 300 to 400 plus. By 1979-80, the strength of households had increased in all the villages. Now villages below 100 households totalled 57 per cent (a decline of 8 per cent); those between 100-199 about 25 per cent (an increase of 7 per cent); those between 200-299 about 9 per cent; and the remainder between 300 to 400 plus.

Table 2.11

Distribution of Villages in Different Household Size Ranges

VLW Circles	Household Range																			
	Less than 50		50 - 99		100-149		150-199		200-249		250-299		300-349		350-399		400 +		Total	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B		
Bangra	6	3	3	3	1	2	-	1	2	-	1	2	-	1	-	-	2	2	15	14
Khaksis	-	-	2	-	2	3	-	1	1	1	1	-	-	1	-	-	1	1	7	7
Rendhar	1	1	8	6	2	2	-	2	-	-	-	-	-	-	1	1	-	-	12	12
Nevli	2	2	2	2	4	4	2	1	1	2	-	-	-	1	1	-	-	-	12	12
Gidwasa	5	3	4	4	2	2	-	1	-	-	-	-	-	-	-	-	1	1	12	11
Maheshpura	6	6	3	1	3	4	1	2	-	-	-	-	-	-	-	-	-	-	13	13
Jaganpura	2	2	4	4	2	2	-	-	-	-	1	1	-	-	-	-	-	-	9	9
Kailiya	6	2	4	7	2	1	-	1	4	2	-	2	-	-	1	-	-	1	17	16
Titra	12	13	6	5	3	3	-	-	2	2	-	-	-	-	-	-	2	1	25	25
Kanasi	10	10	10	8	2	3	1	1	-	1	-	-	-	-	-	-	-	-	23	23
Nadigaon block	50	42	46	40	23	26	4	10	10	8	3	5	-	3	3	3	6	6	145	142
Percentage	34.5	29.6	31.7	28.2	15.9	18.3	2.8	7.0	7.0	5.6	2.1	3.5	-	2.1	2.1	1.4	4.2	4.2	100	100

A = 1971; B = 1979-80.

The average size of the households in Nadigaon was 6 in 1971 (Table 2.10). Within the block, the size of household was highest in Kanasi (6.7), and lowest in Kailiya (5.3). Five out of ten VLW circles had a higher household size average than that of the block : only three had their average lower. In 1979-80, the average size of households in Nadigaon had come down to 5.8. Now Navli (6.7) had the highest average size of the households and Bangra (4.8) the lowest. Three VLW circles had a lower size average of households than that of the block : six had a higher average.

#### 2.11 Scheduled Castes

Nadigaon block had 29.1 per cent scheduled castes in its population in 1971 (Table 2.12). In its ten VLW circles, however, the proportion of scheduled castes was fluctuating between a high of 34.9 per cent (Titra) to a low of 20.4 per cent (Gidwasa). Six out of ten circles (Titra, Rendhar, Kailiya, Kanasi, Khaksis and Jaganpura) had more than 30 per cent scheduled castes in their population. Excepting Kailiya, the circles in the ravine belt had a relatively smaller percentage of scheduled castes than the high land and flat land regions. Taking the holistic view of geographical distribution of scheduled caste population in Nadigaon block, it was evident that Titra (18.4), Kailiya (13.6), and Bangra (12.2) had larger percentages whereas Jaganpura (5), Maheshpura (5.2) and Gidwasa (6.6) had smaller ones.

Table 2.12

Percentage of Scheduled Castes : 1971

VLW Circles	Scheduled Castes	
	Percentage from Circle Population	Percentage from Block Population
Bangra	24.3	12.2
Khaksis	31.1	11.0
Rendhar	33.2	9.7
Navli	24.5	8.7
Gidwasa	20.4	6.6
Maheshpura	26.3	5.2
Jaganpura	31.0	5.0
Kailiya	32.3	13.6
Titra	34.9	18.4
Kanasi	32.1	9.7
Nadigaon Block	29.1	100.0

## 2.12 Literate and Educated

About 23.8 per cent of Nadigaon's population was literate and educated in 1971 (Table 2.13). Among the ten VLW circles, Khaksis (28.8), Rendhar (27.3), and Kanasi (26.9) showed higher percentages of literate and educated people whereas Jaganpura (18.7), Maheshpura (19.3), and Kailiya (20) registered smaller percentages. Pooling the entire number of literate and educated persons in the Nadigaon block, it emerged that Titra (15.9), Bangra (15.1), and Khaksis (12.5) had higher percentage of literate and educated people. This was three to five times of the percentage resident in Jaganpura and Maheshpura circles.

Table 2.13  
Percentage of Literate and Educated Population  
1971

VLW Circles	Literate and Educated	
	Percentage from Circle Population	Percentage from Block Population
Bangra	24.7	15.1
Khaksis	28.8	12.5
Rendhar	27.3	9.8
Navli	21.8	9.5
Gidwasa	22.2	8.7
Maheshpura	19.3	4.6
Jaganpura	18.7	3.6
Kailiya	20.0	10.3
Titra	24.7	15.9
Kanasi	26.9	9.9
Nadigaon block	23.8	100.0

### 2.13 Working Population

Nadigaon's population in 1971 comprised of 29.1 per cent workers and 70.9 per cent non-workers (Table 2.14). Among the ten VLW circles, the highest percentage of workers was shown by Kailiya (32.2), followed by Gidwasa (30.2), Bangra and Khaksis (each 29.1) : the lowest percentage was shown by Kanasi (27.7). Conversely, the percentage of non-workers was highest in Kanasi (72.3), followed by Titra (72.1), Jaganpura (72), and Navli (71.2) : it was lowest in Kailiya (67.8).

Table 2.14

Composition of Working and Non-Working Population  
1971

VLW Circles	Workers (%)	Non-Workers (%)
Bangra	29.1	70.9
Khaksis	29.1	70.9
Rendhar	28.9	71.1
Navli	28.7	71.3
Gidwasa	30.2	69.8
Maheshpura	28.9	71.1
Jaganpura	28.0	72.0
Kailiya	32.2	67.8
Titra	27.9	72.1
Kanasi	27.7	72.3
Nadigaon Block	29.1	70.9

The composition and distribution of various categories of workers was highly skewed (Tables 2.15 - 2.16). 69.3 per cent of the work-force in Nadigaon consisted of cultivators with another 21.1 per cent being agricultural labourers (Table 2.15). The other significant categories of workers were seen in household industry (2.4%), and other services (4.8%). At the level of VLW circles, the picture was somewhat different. The percentage of cultivators in the total work-force was lower than the average of Nadigaon block in as many as six circles (Bangra : 62.3; Khaksis : 65.9; Rendhar : 67.2; Titra : 67.9; Gidwasa : 68.6; and Kailiya : 67.9) : it was higher in the remaining four (Maheshpura : 78.5; Navli :

Table 2.15

Distribution of Various Categories of Workers : 1971  
(in percentage)

VLW Circles	Categories of Workers									
	I	II	III	IV	V		VI	VII	VIII	IX
					A	B				
Bangra	62.3	25.2	0.6	-	2.7	0.6	0.3	1.5	0.6	6.1
Khaksis	65.9	24.2	0.7	-	2.2	0.4	0.4	0.8	0.1	5.3
Rendhar	67.2	26.9	0.6	-	1.3	0.4	0.1	0.4	-	3.1
Navli	77.9	14.2	0.1	-	3.8	0.4	0.3	0.7	-	2.7
Gidwasa	68.6	14.1	0.3	-	4.4	0.5	0.2	3.4	0.2	8.3
Maheshpura	78.5	14.5	0.1	-	2.0	-	1.0	0.8	-	3.1
Jaganpura	77.1	20.1	0.6	-	0.4	0.1	-	0.3	0.2	1.2
Kailiya	68.7	23.9	0.1	-	1.2	0.1	0.3	0.9	0.1	4.5
Titra	67.9	20.7	0.5	-	2.5	0.9	0.6	0.1	0.1	5.8
Kanasi	70.1	22.0	0.4	-	1.3	0.1	0.4	0.7	0.1	3.5
Nadigaon Block	69.3	21.1	0.4	-	2.4	0.4	0.4	1.1	0.1	4.8

I = Cultivator; II = Agricultural Labourer;  
 III = Livestock, forestry, fishing, hunting, plantation, orchards, allied activities; IV = Mining and quarrying; V (A) = Manufacturing, processing, servicing and repair (household industry);  
 V (B) = Other than household industry; VI = Construction; VII = Trade and Commerce; VIII = Transport and Communications; IX = Other services.



77.9; Jaganpura : 77.1, and Kanasi : 70.1). The percentage of agricultural labourers was less than the block average in five out of ten circles : in Navli, Maheshpura and Gidwasa lying in the ravineous belt, it was lower fairly significantly. In Bangra, Khaksis and Rendhar, the agricultural labourers constituted roughly one-fourth of the total work force. The highest percentage of workers in household industry was shown by Gidwasa (4.4), and Navli (3.8). Gidwasa, where the work-force was somewhat better distributed across the various categories of working population, also had 3.4 per cent workers in trade and commerce and 8.3 per cent in other services. No other VLW circle displayed this pattern.

To find out the spatial distribution of various categories of workers in different parts of Nadigaon block, their total strength was converted into percentages from the block total (Table 2.16). It emerged that Titra (15), and Bangra (14.7) circles had larger percentages of the total work-force of the block whereas Jaganpura (4.6), and Maheshpura (5.7) had the smaller percentages. The largest percentage of agricultural labourers in the block were concentrated in Bangra (17.7), Titra (14.9), and Kailiya (13.7) : in comparison, the smallest percentages were shown by Maheshpura (4) and Jaganpura (4.3). Bangra (22.2) and Titra (18.5) had the largest percentage of workers engaged in the livestock, forestry, fishing, hunting, plantation, orchards and allied activities whereas Navli and Maheshpura (each 0.9) had the smallest. No



Table 2.16

Spatial Distribution of Various Categories of Workers:  
1971

(in percentage)

VLW Circle	Total Workers	Categories of Workers									
		I	II	III	IV	V		VI	VII	VIII	IX
						A	B				
Bangra	14.7	13.4	17.7	22.2	-	17.0	22.9	11.7	19.9	57.5	19.3
Khaksis	10.5	10.0	12.0	18.5	-	9.5	11.0	11.7	7.5	5.0	11.6
Rendhar	8.6	8.3	11.0	12.9	-	4.8	8.3	1.1	2.9	-	5.4
Navli	10.4	11.7	7.0	0.9	-	16.4	9.2	8.5	6.5	-	5.9
Gidwasa	9.9	9.7	6.6	7.4	-	18.4	11.9	5.3	29.4	10.0	17.5
Maheshpura	5.7	6.5	4.0	0.9	-	4.7	-	17.0	3.9	-	3.7
Jaganpura	4.6	5.1	4.3	6.5	-	0.8	0.9	-	2.0	5.0	1.2
Kailiya	12.1	12.0	13.7	2.8	-	7.5	1.8	9.6	9.8	7.5	11.4
Titra	15.0	14.7	14.9	18.5	-	16.1	33.0	26.6	12.7	12.5	17.9
Kanasi	8.5	8.6	8.9	9.3	-	4.7	0.9	8.5	5.2	2.5	6.1
Nadigaon Block	100	100	100	100	-	100	100	100	100	100	100

I = Cultivator ; II = Agricultural Labourers; III = Livestock, forestry, fishing, hunting, plantation, orchards, allied activities; IV = Mining and quarrying; V(A) = Manufacturing, processing, servicing and repair (household industry); V(B) = Other than household industry; VI = Construction; VII = Trade and Commerce; VIII = Transport and Communications; IX = Other services.

mining and quarrying activity was being undertaken in the block. Bangra (17), Navli (16.4), and Titra (16.1) were three circles where the workers in household industry were relatively concentrated : on the other hand, Maheshpura and Jaganpura had the smallest percentages. Between Titra (33) and Bangra (22.9), over 55 per cent of Nadigaon block's workers in other industries were based. Titra also had the largest percentage of workers in construction sector. Bangra circle singly claimed 57.5 per cent of the block's workers in transport and communications. Overall, seen purely from the point of concentration of workers, Bangra and Titra circles emerge as the centres of non-agricultural manufacturing activities.

### Economic Profile

#### 2.14 Land Use Pattern

In 1979-80, Nadigaon had a reported area of 49,877.25 hectares in its ten VLW circles (Tables 2.17 - 2.19). The distribution of this area in different VLW circles and different land uses highlights the impact of climate, topography and practice of social capital. About 40,246.10 hectares (80 per cent) was cultivated area. The gross cropped area was slightly higher (40,420.49 hectares : 81 per cent). Out of the net area sown, only 15,765.37 hectares (31.6 per cent) was net irrigated area emphasizing the fact that roughly

Table 2.17

## Area Under Different Land Uses in 1979-80

Sl. No.	VLW Circles	Area Under Different Land Uses (Hectares)							
		Total report- ed area	Forest area	Net irr- igated area	Unirri- gated area	Cultivable waste	Area not available for culti- vation	Net area sown	Gross cropped area
1.	Bangra	7303.22	160.67	2750.77	3226.26	607.88	557.69	5977.02	5992.80
2.	Khaksis	3403.52	-	1282.10	1750.73	183.33	187.37	3032.83	3053.46
3.	Rendhar	3857.19	47.35	1813.87	1388.93	418.07	189.00	3202.82	3259.07
4.	Navli	4894.85	500.20	1505.07	2032.81	458.94	397.83	3537.89	3548.40
5.	Gidwasa	3230.71	1150.16	126.67	1531.81	208.41	213.66	1658.47	1702.59
6.	Maheshpura	3664.17	47.75	835.72	1623.67	957.11	199.93	2459.38	2481.64
7.	Jaganpura	2922.32	-	589.25	1612.31	533.40	187.38	2201.57	2201.57
8.	Kailiya	7417.75	-	2963.21	3184.58	643.87	626.09	6147.79	6147.79
9.	Titra	8283.82	-	1807.00	5839.82	298.24	338.72	7646.81	7647.61
10.	Kanasi	4899.70	-	2091.71	2289.81	210.83	307.36	4381.49	4385.53
Nadigaon Block		49877.25	1906.13	15765.37	24480.73	4520.08	3205.03	40246.10	40420.49

Source : Revenue Department, Konch Tehsil, Konch.

half of the Nadigaon's reported area was unirrigated. Forests claimed 1,906.13 hectares (3.8 per cent) and cultivable waste 4,520.08 hectares (9.1 per cent). About 6.4 per cent area was not available for cultivation.

Disaggregating the picture at the VLW circle levels indicated significant variations (Table 2.18). For example, the percentage of net area sown, standing at 80.7 for the Nadigaon block, varied between a low of 51.3 (Gidwasa) to high of 92.3 (Titra). The net area sown was quite low even in case of Jaganpura (67.1 per cent). The same pattern was visible in case of gross cropped area. Only five out of ten circles had forest area : even among the five, the area was inordinately high in case of Gidwasa (35.6 per cent) as against notional percentages shown by Maheshpura, Rendhar, and Bangra. The percentage of net irrigated area, which stood at 31.6 for the Nadigaon block, varied between a dismal low of 3.9 in Gidwasa, to 20.2 in Jaganpura to 37.7 each in Bangra, Khaksis, and Navli, to 40.2 in Kailiya and a high of 42.7 in Kanasi. Maheshpura recorded the highest percentage (26.1) under cultivable waste and Titra the lowest (3.6).

Spatial distribution of area under different land uses in the ten VLW circles is shown in Table 2.19. Of the total reported area about 45 per cent is claimed by just three circles (Titra : 16.6; Kailiya : 14.8, and Bangra : 14.7) :

Table 2.18  
Percentage Area Under Different Land Uses : 1979-80

VLW Circles	Percentage Area Under Different Land Uses							
	Total reported area	Forest area	Net irrigated area	Unirrigated area	Cultivable waste	Area not available for cultivation	Net area sown	Gross cropped area
Bangra	100	2.2	37.7	44.2	8.3	7.6	81.8	82.1
Khaksis	100	-	37.7	51.4	5.4	5.5	89.1	89.7
Rondhar	100	1.2	47.0	36.0	10.8	4.9	83.0	84.5
Navli	100	10.2	37.7	41.5	9.3	8.1	72.3	72.5
Gidwasa	100	35.6	3.9	47.4	6.4	6.6	51.3	52.7
Maheshpura	100	1.3	22.8	44.3	26.1	5.5	67.1	67.7
Jaganpura	100	-	20.2	55.2	18.3	6.4	75.3	75.3
Kailiya	100	-	40.2	43.2	8.7	8.5	82.9	82.9
Titra	100	-	21.8	70.5	3.6	4.1	92.3	92.3
Kanasi	100	-	42.7	46.7	4.3	6.3	89.4	89.5
Nadigaon Block	100	3.8	31.6	40.1	9.1	6.4	80.7	81.0

Computed from Table 2.17.

Table 2.19

Spatial Dispersion of Land Uses : 1979-80

(Percentages)

VLW Circles	Percentage Spatial Distribution of Land Uses							
	Total reported area	Forest area	Net irri-gated area	Unirri-gated area	Cultivable waste	Area not available for cultivation	Net area sown	Gross cropped area
Bangra	14.7	8.4	1.7	13.2	13.4	17.4	14.9	14.8
Khaksis	6.8	-	8.1	7.2	0.3	5.8	7.5	7.6
Rendhar	7.7	2.5	11.5	5.7	9.2	5.9	8.0	8.1
Navli	9.8	26.2	9.5	8.3	10.2	12.4	8.8	8.8
Gidwasa	6.5	60.3	0.8	6.2	4.6	6.7	4.1	4.2
Maheshpura	7.4	2.5	5.3	6.6	21.2	6.2	6.1	6.1
Jaganpura	5.9	-	3.7	6.6	11.8	5.8	5.5	5.5
Kailiya	14.9	-	18.8	13.0	14.2	19.5	15.3	15.2
Titra	16.6	-	11.5	23.9	6.6	10.6	19.0	18.9
Kanasi	9.8	-	13.3	9.4	4.7	9.6	10.9	18.9
TOTAL	100	100	100	100	100	100	100	100

Computed from Table 2.17.

Jaganpura (5.9), Gidwasa (6.5) and Khaksis (6.8) have significantly smaller reported area. Of the 1,906 hectares forest area in the block, Gidwasa accounted for 60.3 per cent and Navli 26.2 per cent : the remaining 13 per cent or so was distributed in Bangra, Rendhar and Maheshpura circles. Titra (19 per cent), Kailiya (15.2 per cent), and Bangra (14.9 per cent) claimed about half of the net area sown in the block : the three circles dominated by the ravines (Gidwasa, Maheshpura and Jaganpura) collectively showed only 15 per cent.

## 2.15 Sources of Irrigation

As indicated earlier, about 31 per cent of Nadigaon's total cultivated area is irrigated. Canals, wells and tubewells are the sources of irrigation. Among the three, the canals account for as much as 99.4 per cent with the remaining area of 0.6 per cent shared by wells and tubewells. Among the ten VLW circles, the net irrigated area by canals within the circles is never below 96 per cent : it is cent per cent in case of Maheshpura and Kanasi (Table 2.20). About 43 per cent of block's canal irrigated area lies in just three circles (Kailiya, Bangra, and Kanasi) whereas another three (Gidwasa, Jaganpura and Maheshpura) claim only 9.9 per cent. Tubewell irrigation exists only in Kailiya and Bangra circles where the former claims as much as 88 per cent. Irrigation by wells is not done in Bangra, Khaksis, Maheshpura and Kanasi : Titra alone claims 84 per cent of the block's total area irrigated



Table 2.20

Irrigated Area by Sources of Irrigation : 1979-80

VLW Circles	Irrigated Area by Sources of Irrigation					
	Canal		Well		Tubewell	
	% in cir- cle	% in block	% in cir- cle	% in block	% in cir- cle	% in block
Bangra	99.9	17.5	-	-	0.1	11.4
Khaksis	100	8.2	-	-	-	-
Rendhar	99.9	11.6	0.1	1.1	-	-
Navli	99.6	9.6	0.4	6.8	-	-
Gidwasa	96.8	0.8	3.2	5.6	-	-
Maheshpura	100	5.3	-	-	-	-
Jaganpura	99.7	3.8	0.3	1.7	-	-
Kailiya	99.4	18.8	0.01	0.6	0.5	88.6
Titra	96.7	11.1	3.3	84.2	-	-
Kanasi	100	13.3	-	-	-	-
Nadigaon Block	99.4	100	0.5	100	0.1	100

Source : Revenue Department, Konch Tehsil, Konch.



by wells. Available sources of irrigation appear to be not only scanty : they are also highly centralized. Bangra, Kailiya and Kanasi circles emerge considerably better off irrigation source-wise than the other circles, especially the ones lying in the ravine belt.

## 2.16 Agriculture

The following criteria give a fairly good indication of the manner of land used for farming in the Nadigaon block :

- (i) the ratio of gross cropped area to net area sown; (ii) the ratio of gross cropped area to total reported area; (iii) the ratio of net irrigated area to net area sown; (iv) area sown more than once; and (v) area irrigated more than once (Tables 2.21 - 2.22). Taken together these criteria give a very dismal picture of farming as a major economic activity with very low level of irrigated land under cultivation, very nominal double cropped area, and very notional area irrigated more than once. Out of a total of 142 villages, only 28 (19.7 per cent) showed even this low level of area sown more than once : only 11 (7.7 per cent) villages had tiny area irrigated more than once.

Table 2.21

Ratios of Land Uses : 1979-80

(Percentage)

VLW Circles	Ratios of Land Uses		
	Net irrigated area as % of net area sown	Gross cropped area as % of net area sown	Gross cropped area as % of total reported area
Bangra	46.0	100.3	82.1
Khaksis	42.3	100.7	89.7
Rendhar	43.4	101.8	84.5
Navli	42.4	100.3	72.5
Gidwasa	7.6	102.7	52.7
Maheshpura	34.0	100.9	67.7
Jaganpura	26.8	100.0	75.3
Kailiya	48.6	100.0	82.8
Titra	23.6	100.0	92.3
Kanasi	47.7	100.1	89.5
Nadigaon Block	39.2	100.4	81.0

Computed from Table 2.17.

Table 2.22

Area More Than Once Sown and Irrigated : 1979-80

Sl. No.	VLW Circle	Area more than once sown		Area irrigated more than once	
		Perc-entage	No. of villages Showing it	Perc-entage	No. of villages Showing it
1.	Bangra	0.2	2	0.1	1
2.	Khaksis	0.6	3	0.03	2
3.	Rendhar	1.4	5	0.4	2
4.	Navli	0.2	4	0.1	2
5.	Gidwasa	1.4	4	0.1	1
6.	Maheshpura	0.6	5	0.4	3
7.	Jaganpura	-	-	-	-
8.	Kailiya	-	-	-	-
9.	Titra	0.01	2	-	-
10.	Kanasi	0.1	3	-	-
Nadigaon Block		0.3	28 (19.7)	0.1	11 (7.7)

Figures in the parentheses show percentages.

Source : Revenue Department, Konch Tehsil, Konch.

### 2.16.1 Cropping Pattern

Tables 2.23 - 2.31 present different aspects of the cropping pattern prevalent in Nadigaon block. The block does not have any zaid crops. The prominent kharif crops sown are jowar, bajra, arhar, sawan, kutky, moong, urd, masoor, paddy and sugarcane. Wheat, gram, sanai, oilseeds (rape seed, mustard, linseed), barley, pea and potato are important rabi crops. Apart from wheat, the preference of crops for cultivation indicates the critical impact of the climate on the decision of the farmers of the block.

Among the kharif crops, jowar and bajra account for two-third of the total area under kharif crops (Tables 2.23 - 2.24). If the area under arhar (20.4 per cent) is also included in it, the total percentage of the three crops comes to 86.6. This is the aggregate picture. However, the percentage area put under different kharif crops in different VLW circles is somewhat different. Jowar is the top crop in Bangra, Maheshpura, Jaganpura, Kailiya, Titra and Kanasi circles. The percentage of area under jowar here varies between a low of 30.1 (Bangra) to a high of 65.7 (Kanasi). In Rendhar, Navli and Gidwasa it is bajra which is top crop with the area under this crop varying between a low of 31.1 (Rendhar) to a high of 54.6 (Navli). Only in the case of Khaksis the top crop is paddy (28.5 per cent). The second most important crop is bajra in those circles where jowar is

Table 2.23

Cropping Pattern : Area Under Kharif Crops (1979-80)

Sl. No.	VLW Circle	Area Under Different Crops (Acres)						
		Paddy	Jowar	Bajra	Arhar	Sugarcane	Others*	Total
1.	Bangra	108	324	315	206	39	83	1075
2.	Khaksis	41	26	13	12	3	49	144
3.	Rendhar	86	180	212	111	36	57	682
4.	Navli	110	246	976	405	20	32	1789
5.	Gidwasa	2	289	814	336	4	123	1568
6.	Maheshpura	3	690	420	336	-	45	1494
7.	Jaganpura	4	684	131	237	-	52	1108
8.	Kailiya	10	642	452	347	14	381	1846
9.	Titra	8	186	28	57	3	65	347
10	Kanasi	2	238	27	80	1	10	362
Nadigaon Block		374	3505	3388	2127	120	897	10415

\* Includes Sawan, Kitky, Urd, Moong and Masoor.

Source: Revenue Department, Konch Tehsil, Konch.

Table 2.24

Cropping Pattern : Percentage Area Under Different Kharif Crops ( 1979-80)

Sl. No.	VLW Circle	Percentage Area Under Different Crops						Total
		Paddy	Jowar	Bajra	Arhar	Sugarcane	Others*	
1.	Bangra	10.0	30.1	29.3	19.2	3.6	7.7	100
2.	Khaksis	28.5	18.1	9.0	8.3	2.1	34.0	100
3.	Rendhar	12.6	26.4	31.1	16.3	5.3	8.6	100
4.	Navli	6.1	13.8	54.6	22.6	1.1	1.8	100
5.	Gidwasa	0.1	18.4	51.9	21.4	0.2	7.8	100
6.	Maheshpura	0.2	46.2	28.1	22.5	-	3.0	100
7.	Jaganpura	0.4	61.7	11.8	21.4	-	4.7	100
8.	Kailiya	0.5	34.8	24.5	18.9	0.8	20.6	100
9.	Titra	2.3	53.6	8.1	16.4	0.9	18.7	100
10	Kanasi	0.6	65.7	7.4	22.1	0.3	2.8	100
Nadigaon Block		3.5	33.7	32.5	20.4	1.2	8.6	100

\* Includes Sawan, Kitky, Urd, Moong and Masoor.

Computed from Table 2.23.

the top crop and jowar in such circles where bajra is the top crop. The latter also includes Khaksis where paddy is the most important crop area-wise. There is only one exception in case of Kanasi, where, jowar being the top crop, arhar takes the second spot. Arhar is the third important crop in nine out of ten circles the only exception being Khaksis.

Spatial distribution of different kharif crops in different VLW circles is given in Table 2.25. In general, some crops show highly skewed distribution whereas certain others

Table 2.25

Cropping Pattern : Percentage Spatial Distribution of Different Kharif Crops (1979-80)

Sl. No.	VLW Circle	Percentage Area Under Different Crops					
		Paddy	Jowar	Bajra	Arhar	Sugarcane	Others* Total
1.	Bangra	28.9	9.2	9.3	9.7	30.0	9.3 10.3
2.	Khaksis	11.0	0.7	0.4	0.6	2.3	5.5 1.4
3.	Rendhar	23.0	5.1	6.3	5.2	27.7	6.4 6.5
4.	Navli	29.4	7.0	28.8	19.0	15.4	3.6 17.2
5.	Gidwasa	0.5	8.2	24.0	15.8	3.1	13.7 15.1
6.	Maheshpura	0.8	19.7	12.4	15.8	-	5.0 14.3
7.	Jaganpura	1.1	19.5	3.9	11.1	-	5.8 10.6
8.	Kailiya	2.7	18.3	13.3	16.3	10.8	42.5 17.7
9.	Titra	2.1	5.3	0.8	2.7	2.3	7.2 3.3
10.	Kanasi	0.5	6.8	0.8	3.8	0.8	1.1 3.5
Nadigaon Block		100	100	100	100	100	100

\* Includes Sawan, Kitky, Urd, Moong and Masoor.

Computed from Table 2.23.

are somewhat better dispersed across the ten VLW circles. Maheshpura (19.7 per cent), Jaganpura (19.5 per cent) and Kailiya (18.3 per cent) are the circles with the major concentration of area under jowar whereas Khaksis (0.7 per cent), Rendhar (5.1 per cent) and Titra (5.3 per cent) occupy the lower end of the continuum. Navli and Gidwasa between them account for over 52 per cent of total area under bajra : the share of circles such as Khaksis, Titra and Kanasi is very negligible. Arhar, being a crop which is somewhat evenly distributed across the VLW circles, is having high area percentages in Navli (19), Kailiya (16.3), Gidwasa and Maheshpura (each 15.8) : Khaksis and Titra have very small percentages. Only three circles, Navli (29.4), Bangra (28.9) and Rendhar (23) account for as much as 81.3 per cent of paddy. The major concentration of crops such as Sawan, Urd, Moong, and Masoor is in Kailiya (42.5 per cent) and Gidwasa (13.7 per cent).

Among the rabi crops, wheat and barley account for 45 per cent, gram about 26 per cent, oilseeds about 5 per cent, and sanai about 23 per cent (Tables 2.26 - 2.27). The distribution of crop-wise percentages within different VLW circles, however, reveals a somewhat different profile. The single largest block of area is claimed by wheat in seven (Bangra, Khaksis, Rendhar, Navli, Kailiya, Titra and Kanasi) circles and by gram in three (Gidwasa, Jaganpura and Maheshpura)



Table 2.26  
Cropping Pattern : Area under Rabi Crops (1979-80)

Sl. No.	VLW Circle	Area Under Different Crops (Acres)						
		Wheat	Barley	Gram	Pea	Oil seeds*	Potato	Others** Total
1.	Bangra	5633	374	2855	45	475	4	4347 13733
2.	Khaksis	3173	75	728	20	277	9	3119 7401
3.	Rendhar	3202	276	1618	82	252	14	1927 7371
4.	Navli	3123	298	1432	195	580	29	1322 6979
5.	Gidwasa	307	368	1659	7	174	4	119 2639
6.	Maheshpura	1646	410	1932	1	327	6	316 4638
7.	Jaganpura	1563	187	2412	-	94	-	76 4332
8.	Kailiya	7206	108	4152	4	1002	13	741 13226
9.	Titra	7226	64	4437	12	628	4	6179 18550
10	Kanasi	4915	99	2067	4	950	1	2438 10474
Nadigaon Block		37994	2259	23292	370	4759	84	20584 89343

\* Includes rapeseed, mustard and linseed.

\*\* Includes Sanai.

Source : Revenue Department, Konch Tehsil, Konch.

Table 2.27  
Cropping Pattern : Percentage Area Under Different Rabi Crops (1979-80)

Sl. No.	VLW Circle	Percentage Area Under Different Crops						
		Wheat	Barley	Gram	Pea	Oil-seeds*	Potato	Others** Total
1.	Bangra	41.0	2.7	20.8	0.3	3.5	0.03	31.7 100
2.	Khaksis	42.9	1.0	9.8	0.3	3.7	0.1	42.1 100
3.	Rendhar	43.4	3.7	22.0	1.1	3.4	0.2	26.1 100
4.	Navli	44.7	4.7	20.5	2.8	8.3	0.4	18.9 100
5.	Gidwasa	11.6	13.9	62.9	0.3	6.6	0.04	4.5 100
6.	Maheshpura	35.5	8.8	41.7	0.02	7.1	0.1	6.8 100
7.	Jaganpura	36.2	2.5	55.8	-	2.2	-	1.8 100
8.	Kailiya	54.5	0.8	31.4	0.03	7.8	0.1	5.6 100
9.	Titra	39.0	0.3	23.9	0.1	3.4	0.02	33.3 100
10	Kanasi	46.9	0.9	19.7	0.04	9.1	0.01	23.3 100
Nadigaon Block		42.5	2.5	26.1	0.4	5.3	0.1	23.1 100

\* Includes rapeseed, mustard and linseed.

\* Includes Sanai.

Computed from Table 2.26.

circles. In Gidwasa, Maheshpura and Jaganpura, the first spot goes to gram. In two out of seven circles, where wheat has largest area, gram takes the second spot. In the remaining (Bangra, Khaksis, Rendhar, Titra and Kanasi) circles, the second spot is claimed by sanai. In the circles where gram occupies the first position, wheat claims the second position in two (Maheshpura and Jaganpura) and barley in one (Gidwasa). Oilseeds, and sanai occupy the third position in three circles each, gram in two, and wheat and barley in one circle each.

Table 2.28 gives spatial distribution of rabi crops in different VLW circles. Kailiya, Titra (19 per cent each) and Bangra (16.7 per cent) account for 54.7 per cent of the total area under wheat in Nadigaon block : Gidwasa, Maheshpura and Jaganpura claim only about 9 per cent among them. The three circles which account for more than half of block's wheat area also claim about 49 per cent of area under gram. However, the small area under gram is shown by Khaksis, Rendhar and Navli. Only two circles, Titra (30 per cent) and Bangra (21.1 per cent) account for more than half of the area under sanai. If Khaksis and Kanasi are added up, this percentage goes upto 78.1. The south-western circles (Kailiya, Titra, Kanasi) have as much as 54.3 per cent area under oilseeds whereas the ravine belt circles (Gidwasa, Maheshpura and Jaganpura) total/only 12.6 per cent. The latter circles have larger percentage of the block's area under barley.



Table 2.28

Cropping Pattern : Percentage Spatial Distribution  
of Different Rabi Crops (1979-80)

Sl. No.	VLW Circle	Percentage Area Under Different Crops							Total
		Wheat	Barley	Gram	Pea	Oil-seeds*	Potato	Others**	
1.	Bangra	16.7	16.6	12.3	12.2	10.0	4.8	21.1	15.4
2.	Khaksis	8.4	3.3	3.1	5.4	5.8	10.7	15.2	8.3
3.	Rendhar	8.4	12.2	6.9	22.2	5.3	16.7	9.4	8.3
4.	Navli	8.2	13.2	6.1	52.7	12.2	34.5	6.4	7.8
5.	Gidwasa	0.8	16.3	7.1	1.9	3.7	4.8	0.6	3.0
6.	Maheshpura	4.3	18.1	8.3	0.3	6.9	7.1	1.5	5.2
7.	Jaganpura	4.1	8.3	10.4	-	2.0	-	0.4	4.8
8.	Kailiya	19.0	4.8	17.8	1.1	21.1	15.5	3.6	14.8
9.	Titra	19.0	2.8	19.0	3.2	13.2	4.8	30.0	20.8
10	Kanasi	12.9	4.4	8.9	1.1	20.0	1.2	11.8	11.7
Nadigaon Block		100	100	100	100	100	100	100	100

\* Includes rapeseed, mustard and linseed.

\*\* Includes sanai.

Computed from Table 2.26.

## 2.16.2 Productivity and Production

Productivity and production figures for different kharif and rabi crops are given in Tables 2.29 - 2.31. It may, however, be emphasized that reliable and authenticated figures of productivity and production are not available at the block and VLW circle levels : only district level figures are. In the absence of any better alternative, the district productivity figures have been assumed to be valid also for Nadigaon block and the area reported under different crops in different VLW circles has been multiplied to arrive at the estimates of production. These figures obtained as they are, reflect the same peculiarities as the ones analysed in the case of area variation attempted earlier.

## 2.17 Animals and Poultry

In 1979-80, Nadigaon had an animal population of 65,153 and 2211 of poultry (Table 2.32). Cows and their progeny constituted about 45 per cent of the animal population with another 24 per cent accounted for by the buffalo stream. Among the smaller animals goats, sheep and pigs are the mainstock of meat supply. Collectively they total about 30 per cent, with the individual shares of goats, sheep and pigs being 18.9, 9.3 and 2.1 per cent respectively (Table 2.33). The proportion of other animals is very negligible. Within the VLW circles, the composition of animal population

Table 2.29

Per Acre Productivity of Different Crops : 1979-80

Crop	Kharif	Rabi	
	Productivity (Quintals)	Crop	Productivity (Quintals)
Paddy	2.28	Wheat	5.59
Jowar	3.21	Barley	4.71
Bajra	2.39	Gram	2.64
Arhar	7.33	Pea	2.33
Sugarcane	15.12	Oilseeds	1.28
Others (Sawan, kutky, urd, moong, masoor)	2.79	Potato	63.75
		Others	1.77

Source : Revenue Department, Konch Tehsil, Konch.

Table 2.30

Production of Different Kharif Crops : 1979-80

Sl. No.	VLW Circle	Production of Different Crops (Quintals)						
		Paddy	Jowar	Bajra	Arhar	Sugar-cane	Others*	Total
1.	Bangra	246.24	1040.04	752.85	1509.98	589.68	231.57	3569.00
2.	Khaksis	93.48	83.46	31.07	87.96	45.36	136.71	478.00
3.	Rendhar	196.08	577.80	506.68	813.68	544.32	156.24	2264.24
4.	Navli	250.80	789.66	2332.64	2968.65	302.40	89.28	5939.48
5.	Gidwasa	4.56	927.69	1945.46	2462.88	60.48	343.17	5205.76
6.	Maheshpura	6.84	2214.90	1003.80	2462.88	-	125.55	4690.08
7.	Jaganpura	9.12	2195.64	313.09	1737.21	-	145.08	3678.56
8.	Kailiya	22.80	2060.82	1080.28	2543.51	211.68	1062.99	6128.72
9.	Titra	18.24	597.06	66.92	417.81	45.36	181.35	1152.04
10	Kanasi	4.56	763.98	64.53	586.40	15.12	27.90	1201.84
Nadigaon Block		852.72	11251.05	8097.32	15590.91	1814.40	2502.63	34577.80

\* Includes Sawan, Kutky, Urd, Moong and Masoor.

Computed on the basis of Tables 2.23 and 2.29.

Table 2.31

Production of Different Rabi Crops : 1979-80

Production of Different Crops (Quintals)									
Sl. No.	VLM Circle	Wheat	Barley	Gram	Pea	Oilseeds*	Potato	Others**	Total
1.	Bangra	31488.47	1761.54	7537.20	104.85	608.00	255.00	7694.19	59051.90
2.	Khaksis	17737.07	353.25	1921.92	46.60	354.56	573.75	5520.63	31824.30
3.	Rendhar	17899.18	1299.96	4271.52	191.06	322.56	892.50	3410.79	31484.60
4.	Navli	17457.57	1403.58	3780.48	434.35	742.40	1848.75	2339.94	30009.70
5.	Gidwasa	1716.13	1733.28	4379.76	16.31	222.72	255.00	210.63	11347.70
6.	Maheshpura	9201.14	1931.10	5100.48	2.33	418.56	382.50	559.32	19943.40
7.	Jaganpura	8737.17	880.77	6367.68	-	120.32	-	134.52	18627.60
8.	Kailiya	40281.54	508.68	10961.28	9.32	1282.56	828.75	1311.57	56871.80
9.	Titra	40393.34	301.44	11713.68	27.96	803.84	255.00	10936.83	79765.00
10	Kanasi	27474.85	466.29	5456.88	9.32	1216.00	63.75	4315.26	45038.20
Nadigaon Block		212386.46	10639.89	61490.88	862.10	6091.52	5355.00	36433.68	384174.90

\* Includes Rapeseed, Mustard, and Linseed.

\*\* Includes Sanai.

Computed on the basis of Tables 2.26 and 2.29.

Table 2.32

Animal Population : 1979-80

VLW Circle	Distribution of Different Animals										Other Animals	Total
	Cows and Progeny		Buffalo		Goat		Sheep		Pigs			
	A	B	A	B	A	B	A	B	A	B		
Bangra	2962	999	1081	752	1047	750	359	143	258	132	37	8520
Khaksis	2241	586	803	494	304	173	49	11	24	18	8	4711
Rendhar	1811	592	868	608	678	387	573	376	98	45	27	6063
Navli	2855	1065	1513	932	1140	682	672	315	37	42	17	9270
Gidwasa	2213	617	752	450	1108	534	502	284	76	44	50	6630
Maheshpura	1742	492	632	253	578	232	391	156	26	2	34	4538
Jagenpura	1089	198	563	213	323	174	199	84	18	9	2	2872
Kailiya	2803	748	976	686	2002	345	1383	221	66	87	111	9428
Titra	3014	905	1629	1159	739	498	135	27	196	130	27	8459
Kanasi	1797	572	835	605	408	218	113	46	35	22	11	4662
Nadigaon Block	22527	6774	9652	6152	8327	3993	4376	1663	834	531	324	65153

A = 3 years or more; B = Less than 3 years.

Source : Revenue Department, Konch Tehsil, Konch.

Table 2.33

Percentage Distribution of Animal Population  
1979-80

VLW Circle	Distribution of Different Animals												Total Animals
	Cow and Progeny		Buffalo		Goat		Sheep		Pigs		Others		
	A	B	A	B	A	B	A	B	A	B	A	B	
Bangra	46.5	13.5	21.5	11.6	21.0	14.5	5.9	8.3	4.6	28.5	0.4	11.4	100
Khaksis	60.0	9.6	27.5	8.2	10.1	3.9	1.3	1.0	0.9	3.1	0.2	2.5	100
Rendhar	39.0	8.2	24.3	9.3	17.6	8.6	15.7	15.7	2.4	10.5	0.4	8.3	100
Navli	42.3	13.4	26.4	15.5	19.7	14.8	10.6	16.3	0.8	5.8	0.2	5.2	100
Gidwasa	42.7	9.7	18.1	7.6	24.8	13.2	11.9	13.0	1.8	8.8	0.8	15.4	100
Maheshpura	49.2	7.6	19.5	5.6	17.8	6.6	12.1	9.1	0.6	2.1	0.7	10.5	100
Jaganpura	44.8	4.4	27.0	4.9	17.3	4.0	9.8	4.7	0.9	2.0	0.1	0.6	100
Kailiya	37.7	12.1	17.6	10.5	24.9	19.0	17.0	26.6	1.6	11.2	1.2	34.3	100
Titra	46.3	13.4	33.0	17.6	14.6	10.0	1.9	2.7	3.9	23.9	0.02	8.3	100
Kanasi	50.8	8.1	30.9	9.1	22.2	8.4	3.4	2.6	1.2	4.2	0.2	3.4	100
Nadigaon Block	45.0	100	24.3	100	18.9	100	9.3	100	2.1	100	0.5	100	100

A = Percentage in the VLW Circle; B = Percentage in the block.  
Computed from Table 2.32.



is somewhat different than the one reflected in the Nadigaon block's profile. Five out of ten circles display higher percentages of cows and their progeny than the block with Khaksis registering as high as 60 per cent : only Kailiya and Rendhar have significantly lower percentages. Buffaloes claim a higher percentage within the circles in the flat land areas of Titra, Kanasi and Khaksis : among the ravine belt circles only Navli has a higher percentage of buffaloes than the block. As compared to the block percentage of 18.9 under goats, the same figures for different circles vary between a low of 10.1 (Khaksis) to a high of 24.9 (Kailiya). Bangra, Navli, Gidwasa, Kailiya, and Kanasi have higher percentages of goats than the block percentage. Kailiya and Rendhar have markedly higher percentage of sheep in their animal population than that of the block.

About 40 per cent of cows and their progeny are distributed in only three circles (Bangra, Navli and Titra) with Gidwasa, Maheshpura and Jaganpura circles having only about 20 per cent of them. The latter circles have even lesser percentage (17 per cent) of buffaloes of which 44.7 per cent is concentrated in Titra, Navli and Bangra. Kailiya, Navli and Bangra account for 48 per cent of goats with the remaining 52 per cent scattered in seven circles. Kailiya and Rendhar have 32 per cent of the block's sheep whereas Titra and Bangra total 52 per cent of pigs. Thus, Kailiya, Bangra, Navli,

Titra and Rendhar emerge as the better endowed circles in terms of animal population in Nadigaon block. Hen constitute about 98 per cent of total poultry stock in Nadigaon (Table 2.34). Titra, Kailiya, and Bangra have major concentrations of hen. The ducks are found only in Khaksis, Kailiya, Titra and Kanasi with Kailiya alone claiming roughly the half of them.

Table 2.34

Poultry : 1979-80

VLW Circle	Poultry						Total
	Hen			Ducks			
	No.	% in circle	% in block	No.	% in circle	% in block	
Bangra	307	100	14.1	-	-	-	307
Khaksis	138	96.5	6.3	5	3.5	14.3	143
Rendhar	160	100	7.4	-	-	-	160
Navli	114	100	5.2	-	-	-	114
Gidwasa	300	100	13.8	-	-	-	300
Maheshpura	144	100	6.6	-	-	-	144
Jaganpura	32	100	1.5	-	-	-	32
Kailiya	342	95.8	15.7	15	4.2	42.9	357
Titra	409	97.6	18.8	10	2.4	28.6	419
Kanasi	230	97.9	10.6	5	2.1	3.5	235
Nadigaon Block	2176	98.4	100	35	1.6	100	2211

Source : Revenue Department, Konch Tehsil, Konch.



## 2.18 Industry

Nadigaon has only three industrial units located in Bangra and Titra circles. These units are in the construction industry. Physical isolation, lack of the necessary infrastructure and absence of local entrepreneurial outlook have all contributed to this dismal state of affairs.

## Infrastructure

## 2.19 Educational and Health Institutions

Nadigaon block has 131 educational institutions. Of these 104 are primary schools, 21 junior high schools, and six higher secondary schools. The block has no degree college. Rendhar, Navli and Jaganpura circles do not have any higher secondary schools whereas the remaining seven circles have one each (Table 2.35). Except for Jaganpura, all other circles have junior high schools. The number of both primary and junior high schools is larger in Bangra, Titra and Kanasi circles.

The block has no hospital. Its four Primary Health Centres are located in Bangra, Gidwasa (one each), and Titra (two) circles. Only Khaksis, Navli and Gidwasa have Family Welfare Centres. The six Maternity and Child Welfare Centres are in Bangra, Khaksis, Navli, Gidwasa, Titra and Kanasi circles. The five dispensaries are sited in Kanasi, Kailiya,

Table 2.35

Educational and Medical Institutions:  
1979-80

Circle	Education			Health							Animal		
	Primary Schools	Junior high schools	H.S. Schools	Private Medical Practio- ner	Chemist& Druggist shop	M.C.W. Centre	Dispen- sary	F.W.Cen- tre	P.H.C.	Stockman Centre	A.I. Sub- Centre	Veteri- nary Hospital	
Bangra	15	4	1	3	1	1	-	-	1	-	1	1	
Khaksis	9	2	1	2	-	1	1	1	-	-	-	-	
Rendhar	10	1	-	2	-	-	1	1	-	-	-	-	
Navli	11	2	-	1	-	1	1	1	-	-	-	-	
Gidwasa	9	2	1	4	3	1	-	1	1	-	1	1	
Maheshpura	6	1	-	1	-	-	1	-	-	-	-	-	
Jaganpura	6	-	-	-	-	-	-	-	-	-	-	-	
Kailiya	9	2	1	5	-	-	1	-	-	1	-	-	
Titra	19	4	1	-	-	1	-	-	2	1	1	-	
Kanasi	10	3	1	1	-	1	1	-	-	-	-	-	
Nadigaon Block	104	21	6	19	4	6	5	3	4	2	3	2	

Maheshpura, Navli and Khaksis circles. Rendhar and Jaganpura do not have any public health institutions. Ordinarily, this should have been reflected in larger number of private practioners in these circles but in case of Jaganpura it is not the situation. The irony is further emphasized by the presence of larger number of private practioners in such circles which have one or more public health institutions.

Animal health care and breed improvement is managed with the help of seven institutions. Of these, two each are veterinary hospitals, stockman centres and three artificial insemination centres. The hospitals are located in Gidwasa, and Bangra; the artificial insemination centres in Bangra, Gidwasa and Titra and the stockman centres in Kailiya and Kanasi. Khaksis, Rendhar, Navli, Maheshpura, Jaganpura and Kanasi do not have any veterinary institutions. Nadigaon block does not have any formalized recreational institutions such as cinema theatres, etc.

## 2.20 Public Utilities

Nadigaon block has only two metalled roads. The Konch-Nadigaon road and the Mahona - Jalaun road. Their combined total length inside the block is 100 kms. The former passes through Kanasi, Khaksis, Maheshpura circles to touch Nadigaon: the latter passes through Bangra circle only. A third metalled road, linking Konch and Jalaun towns touches three villages

of Titra circle. There are seven kutch roads with a total length of about 120 kms. These are : (1) Kamsera - Dhanora (on to Konch); (2) Bangra - Navli, (3) Maanpura - Navli, (4) Rendhar - Tilokpura (on to Konch), (5) Nadigaon - Sajera (across Pahuji), (6) Mau - Mansukhpur, and (7) Mau - Kailiya. During 1979-81, seven link kutch roads were built under the Food for Work Programme. These roads are in Bangra, Rendhar, Titra and Khaksis circles and their lengths vary between 1 to 2 kms. Private buses ply on all the pucca roads. Kanasi circle has largest number of bus stops whereas Navli, Maheshpura and Jaganpura circles do not have any. No railway track is located within the block and the nearest railway station is Konch which is on a loop-line. Among the public utilities, Nadigaon has 25 village post offices (Table 2.36). Four among these have telephones too. Telegraphic facilities can be availed of only in Konch which is outside the block. The block forms part of the notorious dacoit-infested trail (Bhind, Morena, Datia, Gwalior, Bharatpur, Jhansi, Lalitpur districts), and yet it has only two police stations and two outposts. The police stations are in Rendhar and Kailiya circles whereas the police outposts are in Gidwasa and Jaganpura. Only 17 out of 142 villages are having electricity connection. Even these 17 villages are drawn from only 5 circles. Kanasi and Titra accounted for 12 among these whereas villages in Rendhar, Navli, Maheshpura, Jaganpura, and Kailiya are not electrified.

Table 2.36  
Public Utilities :1979-80

Circle	Public Utilities					
	Bus stop*	Post Office	Post office with Telephone	Police outpost	Police Station	Elect-ricity*
Bangra	1	5	1	-	-	2
Khaksis	1	2	-	-	-	2
Rendhar	2	2	1	-	1	-
Navli	-	4	-	-	-	-
Gidwasa	1	1	1	1	-	1
Maheshpura	-	1	-	-	-	-
Jaganpura	-	2	-	1	-	-
Kailiya	1	3	1	-	1	-
Titra	1	3	-	-	-	5
Kanasi	6	2	-	-	-	7
Nadigaon Block	13	25	4	2	2	17

\* Indicates the number of villages having them.

## 2.21 Input and Output Management Institutions

Nadigaon had seven multipurpose cooperative societies in 1979-80. Khaksis, Rendhar, Maheshpura, and Jaganpura circles did not have them whereas Bangra had two of them (Table 2.37). Of the eight branches of banks in the block, four each were established by the commercial and cooperative banks. Bangra and Gidwasa circles had branches of both types

Table 2.37

## Input and Output Management Institutions : 1979-80

Circle	Institutions								
	Multi- purpose Cooper- ative Society	Comme- rtial Banks	Coope- rative Banks	Seed Dis- tribution Centre	Fertili- zer Pesti- cides Dis- tribution Centre	Controll- ed cloth shop	Agri- cultu- ral imple- ments Repair- ing shops	Bi- Weekly Market	Nyaya Pancha- yat H.Q.
Bangra	2	1	2	1	1	2	-	2	1
Khaksis	-	1	-	-	-	-	-	-	1
Rendhar	-	1	-	-	-	-	-	1	1
Navli	1	-	-	-	-	-	-	1	1
Gidwasa	1	1	1	1	-	2	2	1	1
Maheshpura	-	-	-	-	-	-	-	-	-
Jaganpura	-	-	-	-	-	-	-	-	1
Kailiya	1	-	1	1	1	1	-	-	1
Titra	1	-	-	1	1	1	-	-	1
Kanasi	1	-	-	1	1	-	-	-	1
Nadigaon Block	7	4	4	5	4	6	2	5	9



whereas Titra, Navli, Maheshpura and Jaganpura did not have any. There are nine distributing centres of seed, fertilizer and pesticides. Bangra, Kailiya, Titra and Kanasi have one each from these two types : Gidwasa has only seed distribution centre. The six control cloth shops are located in four circles out of which two (Bangra and Gidwasa) have two each. Both the agricultural implements' shops are in Gidwasa. Of the five bi-weekly markets, two are held in villages located in Bangra, one each in Rendhar, Navli and Gidwasa circles. Only Maheshpura does not have a Nyaya Panchayat headquarter : all other circles have it.

## 2.22 Place of Nadigaon in the District

Nadigaon block is the largest of nine blocks in Jalaun district occupying roughly 12 per cent of its area and 16 per cent of the villages. The block is not having proportionately comparable number of institutions of higher education although it does so in so far as the institutions at lower and middle levels are concerned. The number of co-operative societies in Nadigaon is smaller but the quantum of short-term and medium term credit disbursed to the members is proportionately higher than the other blocks in the district. Some of the other blocks in the district have larger number and higher order of medical institutions than Nadigaon. The same is true about public amenities.

## 2.23 Institutional Efficacy

The description of presence or absence of different types of institutions attempted here provides only a crude indication of availability of a service/facility. Even if this is supplemented with the hard-to-comeby year by year statistics of capital and revenue budgets and number of beneficiaries, the real picture of institutional efficacy is not captured. These institutions themselves concede that the budgetary and user figures are not very reliable. Without conducting any detailed organisational effectiveness study, the general weaknesses of these are described in the next section.

## Overview and Appraisal of On-going Programmes

### 2.24 Programme Content

The contents of the development programmes initiated and implemented through the agency of the block can be categorized under three major heads : (a) production component; (b) social services and amenities component; and (c) welfare component. Since the specific programmatic details have emerged over a 24 years period,<sup>1</sup> the examination of the content also follows the sequential pattern on the time scale.

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<sup>1</sup>The recent reference year is 1980 when this exercise was completed.



## 2.25 Programme Content During First Five Year Plan

Production component had three major heads : (a) agriculture and allied fields; (b) employment; and (c) training. Programmes concerning agriculture and allied fields involved: reclamation of virgin and wastelands; provision of irrigation water through canals, tubewells, surface wells, tanks, irrigation from rivers, lakes and pools, provision of quality seeds, improved agricultural techniques, veterinary aid, improved agricultural implements, marketing and credit facilities, breeding centres for animal husbandary, soil research and manures; development of inland fisheries, fruits and vegetable cultivation, horticulture including planting of forest and reorganization of dieties; improvement of cattle breed for high milk production under the key village scheme. Employment programmes included cottage, medium and small scale industries, and planned distribution of inputs on co-operative basis. Training schemes consisted of provision of refresher courses for improving the standard of existing artisans and training of farmers, and extension officials of the Block.

The social services component included programmes concerning education, health and housing. Under education, provision of compulsory and free education at the elementary, middle and high schools, operation of libraries and social education of the community. Health services planned included

provision of sanitation and public health measures; medical aid for the ailing and pre- and anti-natal care and mid-wifery services. Housing head included provision of improved techniques and designs for rural housing. The welfare component involved provision of community entertainment through audiovisual aids; talent and culture through the Mahila and Yuvak Mangal Dals and organisation of local and other sports, melas, etc.

Nadigaon block was not in existence during the first plan period and missed the initial enthusiasm seen in the development effort.

## 2.26 Programme Content During the Second Five Year Plan

During the second plan period, although the basic content of the development programmes operated through the development blocks basically remained the same, its emphasis changed within the large number of items which were included in the first plan period. Under the production component, there was greater emphasis on development of cooperatives, panchayats, consolidation of holdings and development of village industries. Under the social services and amenities head, emphasis was on programmes designed to assist the weaker sections of the village community especially the small farmers, landless tenants, agricultural labourers, and artisans. Special attention was paid to the tribal areas. Under the welfare component, there was emphasis on more intensive work among women and youth.

Nadigaon block was established on 2nd October 1959 and started these programmes in a slow manner.

#### 2.27 Programme Content During Third Five Year Plan

Two major changes introduced were induction of Panchayati Raj and 'recognition' of block as an unit of planning and development. Within the general framework of the district plan, block plan was intended to include all social and economic activities undertaken. This entailed coordination of block plan with the plans of various departments which were implemented within the block. Main tests for the success of programmes under the three major heads were prescribed. These were : agricultural production, development of rural industries and cooperatives and fuller utilization of local manpower and resources (under the production component); development of facilities for education and adult literacy, optimum utilization of Panchayati Raj resources and assistance to weaker sections of the community (under the social services component); assumption of 'responsibility' for the welfare, employment and livelihood of all the members of weaker sections (under welfare component).

#### 2.28 Programme Content During the Fourth Five Year Plan

The fourth plan emphasized the self-sustaining economic growth, in general and maximization of agricultural production in particular through : (i) improvements in the skills

and knowledge of extension services, (ii) quick and effective diffusion of improved practices, (iii) routing of funds of other departments through the block agencies to supplement those under schematic budgets; and (iv) concentration of clearly defined programme in specific areas.

A clear distinction was made between programmes of nationwide coverage and those of local relevance and need. Agriculture and family planning programmes were deemed to be the ones having nation-wide importance. The programmes of local relevance governed welfare and community services. During this period the applied nutrition programme (ANP) was declared to be implemented as a part of general long-term plan with special emphasis for the children and women. The rural manpower programme included in this period covered intensive schemes which were to benefit agricultural production and improve rural infrastructure. This programme was to be concentrated in backward areas, tribal and drought prone areas.

## 2.29 Programme Content During Fifth Five Year Plan

The emphasis during the fifth plan shifted to integrated development and, consequently, the entire programmatic content of whole village development programme, and special programmes of rural development outlined under it concentrated on the production component. Within this framework, the consolidation of holdings, overall land development plan,

maximum irrigation support and cropping programme to suit best use of irrigation were assigned top priority. The minimum needs programme, more or less covering the social services and welfare component, got only a customary reference without any specific programme to actually make these available even to the lowest 30 per cent of population. To top it, the family planning programme was integrated with health and nutrition facilities in order to promote the concept of small families.

### 2.30 Programme Content in the Sixth Five Year Plan

Programme content has been a bone of contention between the Janata and the Congress governments which have grappled with the task of its formulation. The Janata government in a major shift in the overall development approach placed greater emphasis on the agricultural-rural sector. It made the weakest section of the population the focus of all the programmes of agricultural and rural development and introduced its Antyodaya and food for work programmes under this policy keeping the operation of all other earlier integrated and target group oriented programmes intact. The Congress government, returning to power in 1980, has, albeit without saying so explicitly, given the emphasis back to industrial development and made semantic changes in programmes such as Antyodaya and slowly abandoned programmes such as food for work. Rural development now approaches alleviation of poverty through

economic emancipation of the family, education of children and voluntary adoption of small family norm. Two major thrusts of agricultural development are : (a) organisation of relevant services which would enable the weaker sections to derive benefits of new technology; and (b) diversification of farm income through mixed farming, agro-industries and small scale industries. Small scale industries would be developed essentially through supply of inputs, skill and design improvements and producer oriented marketing.

## 2.31 Direction of Programmatic Shifts

Programmes of rural development in India began and continued as experiments in community and nation building. As an evolutionary programme, therefore, they were destined to undergo changes as the time passed, experience was gained, new possibilities emerged, and socio-economic-political contexts changed. A perusal of the shifts undergone by the rural development programmes in India makes two conclusions obvious. One, the shifts appear to be in one direction i.e. progressive elimination of social services, amenities and welfare components and accompanied by increasing emphasis on the production component, particularly agriculture. Second, although the shifts in the aims and objectives have been fairly large in numerical terms, the programme structure itself has gravitated from more general to specialized ones,



the target groups becoming more clearly defined and emphasis came to be laid on production of measureable and concrete results.

### 2.32 Inadequacies of Ongoing Programmes

1. Programmes have been drawn, on a prototype basis, at the central level and made to be implemented at the local block levels without due consideration to the needs and/or situational requirements. This has quite often meant paper implementation or wrong implementation of the programmes.
2. Designing of programme budgets, organisational tasks, composition of project teams have had no relationship with such key considerations as the size of target population, its characteristics, terrain and cultural ethos which determine success or failure of many a programme.
3. Over-dependence on lower level functionaries, acute differentiations of functions, multiple roles and diffused accountability, job-dissatisfaction, and inappropriate procedural formats are major shortcomings of the block organisational structure as it has operated during the last 29 years.
4. The programmes have generally tended to make the beneficiaries go to a distant place to avail off the services/goods/inputs and this centralization is also accompanied by the



mismatch of the motives of the target groups expected to benefit and the officials manning the task delivery systems. This has meant a massive leakage in the delivery process.

5. Some of the programme, while proving to be a short-term palliative on one count, emerge as a certain liability on many other. Obviously, these could have been anticipated if the programme formulation had been a more detailed professional and experimented exercise.

6. Non-participation of the people themselves in the planning and plan execution process. As a result, on one hand, inappropriate programmes and schemes have been foisted. On the other hand, high operating establishment costs of the delivery systems have often left very little budgetary allocations for the actual programmes.

### 2.33 Constraints to Development

From the analysis of preceding sections, the following emerge as the constraints to the development of Nadigaon block:

1. Nadigaon area has been part of the volatile political arena throughout its history. In the post-independence period, it ended up being branded as an isolated, backward block to which not many officials wanted to go on their own. In fact, it came to be known as the block where some one was sent deliberately for punishment. Those posted there did not generally

keep their families and worked and commuted from convenient places. Nadigaon's isolation from Bangra area in its north and Maheshpura, Jaganpura and Kailiya in its south and Datia side of M.P. across the river Pahuj still remains intact. In ways more than one, it has retarded Nadigaon's development.

2. Of the three natural regions of Nadigaon, the ravine and highland belts present considerable difficulties in pursuing agriculture, the mainstay of lives in the block. The ravines are not only natural shelters for the dacoits : they also abet soil erosion, prevent better farming, increase the cost of road building and make communications difficult.

3. The character of agriculture is dismal. It shows high cultivable waste, notional double cropped area, very low use of high yielding varieties technology and consequently very abysmal per unit productivity.

4. Animal husbandry, especially the milch and draught animals, goats and sheep, are there in sufficient numbers but their breed is indigenous and low yielding. The cultural practice of leaving the cattle free in the summer season further adds to the loss of animal wealth. Cattle fodder development has not taken roots and even the utilization of dead animal bones is absent.

5. Nadigaon block lacks crucial components in infrastuctural terms, items such as roads, transport, power, and communications. It is, therefore, hardly surprising that industrial activity is almost absent in the entire block.

6. The number of lower order social service institutions is large and the higher order ones are absent. The acquisition of better skills is a difficult proposition. Qualitatively even the present lower order institutions leave a lot to be desired in delivering the task they are charged with.



## Chapter 3

### PERSPECTIVE OF AND STRATEGY FOR DEVELOPMENT

#### 3.1 Approach to Nadigaon's Problems

One of the major dilemmas facing the planner is the basic posture he takes and the approach he adopts to develop one area. His time frame and financial boundries put a limit on him in working out the options. Given different degrees of freedom on both these counts, the planners adopting the same norms may end up in producing totally different plan documents. In the present case, the time frame considered most appropriate was a five year period, 1981-1986. There was no directive about the financial size of the plan. However, the programme proposals, which follow in chapter 5, have been made keeping one major consideration in view. It is that Nadigaon is acutely backward area and the broadcast method of solving its problems is not going to make much change in its present position. Therefore, the proposals would assume a posture which would appear to be heavy in terms of tasks outlined and outlays to be spent. This is the only way to make an appreciable change in the socio-economic profile of Nadigaon block.

#### 3.2 Direction of Development Thrust

This plan's development thrust is directed toward an appreciable increase in the productive capacities of the block, a significant beginning toward establishment of a base of

manufacturing activities, removal of its isolation from its own far flung areas and areas outside, a better institutional distributive network improving input supply and output disposal on the one hand and better quality of life to the people of the area on the other, and generation of additional employment and income. The three natural regions of the block - and certain areas in them in particular - represent different levels of development and the plan proposals would attempt to remove their disparities.

### 3.3 Sectoral Strategies

#### 3.3.1 Agriculture

The total agricultural production in Nadigaon block was 418,752 quintals in 1979-80. Per capita availability of food-grains per day in the same year was over 1100 gms. This indicated that the per capita food availability was about 200 per cent over the prescribed norm of 450 gms. In planning agricultural development of Nadigaon block, the emphasis is on increasing the low per acre yield, popularization of the high yielding varieties and vegetable cultivation, and increase in the use of accompanying inputs. The shift which is envisaged, in other words, is from subsistence to commercial agriculture, from mono-crop to multiple cropping, from indigenous to HYV seeds, from dry to irrigated farming. This can not be



done without increasing the irrigation potential of the block, currently 31 per cent of the cultivated area. Fortunately, the ravine area has a long-stretch of artisen belt and the neighbouring highland area too is having sufficient untapped ground water. The programme of minor irrigation through artisen wells, deep bored wells, masonry wells with persian wheels and surface water pumpsets would, therefore, attempt to increase the irrigated area substantially.

Simultaneously, afforestation, anti-soil erosion and land improvement programmes would also make more area available for cultivation which, in turn, would help in boosting the agricultural production. To facilitate better distribution of inputs, additional input distribution outlets would need to be established at identified central places in pockets which do not have them at the present moment. Since the number of tractors is fairly large in the block and other agricultural equipments have gained popularity, their servicing is becoming a problem. At present servicing facility exists only in Konch and Orai towns. Agro-service centres, therefore, need to be established at convenient points to make this facility available in Nadigaon block itself.

### 3.2 Animal Husbandry

Breed improvement and making animal wealth more paying to the population would be two major aspects of the animal



husbandry programmes. For the cows and buffaloes, the larger sized milch animals needing green fodder, it would be essential to popularize irrigated fodder cultivation especially in flat land areas where irrigation facilities already exist. In the ravine and highland belts, sheep rearing programme is already in an advance, successful stage. During the next five years, goat rearing should be popularized. For this purpose, Jamunapari breed would be preferable for Nadigaon's terrain. The existing network of veterinary institutions leaves big gaps in terms of coverage and an integrated cattle development programme of the nature providing complete range of services would require them to be strengthened appreciably.

### 3.3.3 Industries

The shift in the character of Nadigaon's farming, especially growing of vegetables and other commercial crops, would create the opportunity of establishing small scale manufacturing units based on them. Small scale industries concerning agricultural implements, vegetable dehydration, dal mill, oil extraction, bone mill, brick kiln and printing press would need to be established at important central places. In view of increase in the population on the one hand and higher tempo of economic activities on the other, the consumer catering village and cottage industries would also have to be established. These would generally involve upgrad-

ing, at least marginally, the technology used by the village artisans. This would be supplied by the Khadi and Village Industries Commission along with necessary capital and marketing facilities. These would also increase the employment in the non-agricultural manufacturing sector.

### 3.3.4 Roads and Power

The physical and psychological isolation of Nadigaon would need to be broken by opening it up toward M.P. side on the one hand and connecting it better with central places located in its north and south. It would mean construction of a major bridge at Nadigaon on the river Pahuj, laying one new road and Kankar laying of another seven existing kutcha roads. This involves considerable expense but in its absence all other programme would not register the type of economic impact this plan seeks to exert.

The power grid is absent almost in the same areas in which roads too are not there. The programme of laying H.T. and L.T. lines and connecting villages with power lines shall have to follow essentially in the foots of the road development programme. Some of the suggested activities, in fact, can not be undertaken if the power supply is not ensured. The programme of power development in areas such as Nadigaon comes under the priority allocations of the Rural Electrification Corporation and, as such, these schemes can be financed by them.

### 3.3.5 Social Services

Nadigaon lacks all higher order social services (i.e. educational, medical, recreational) and other amenities. As a result, maintenance of physical and mental health of the people is not very satisfactory : development of human resources is removed to more distant places involving larger expenses and quit often meaning sacrificing the opportunities altogether. As such, a two-pronged approach of locating some higher order social service institutions and qualitative improvement of the existing lower order ones shall be the two characteristics of the strategy to be followed.

## Chapter 4

### INTEGRATED AREA DEVELOPMENT AND IDENTIFICATION OF CENTRAL PLACES

#### 4.1 Integrated Area Development as A Method

One of the major inadequacies of sectoral planning approach practised in the country has been absence of any integration of the functional dimension with the spatial one. Integrated area development is considered to be a better methodological tool to ensure maximum possible linkages between the activities of central places of different hierarchies and methodical, coordinated expansion of different range of services/facilities for overall development of an area. It assumes that every single settlement is not viable unit for planning exercises. It offers a framework which helps in arriving at locational decisions for providing services/facilities with better cost-benefit returns.

#### 4.2 IAD Methodologies

Identification of the central places in a given spatial region involves ranking of the component settlements and fitting them into a hierarchy. This has been done using three methodologies : (i) population thresholds; (ii) scalogram analysis ; and, (iii) functional hierarchy. Some exercises

have also used them in combination with each other.<sup>1</sup> The first two methods have some operational disadvantages. The ranking of settlements on the basis of median population thresholds, for example, indicates the minimum population required to sustain a particular service/facility/function. In reality, however, the function may not be sustained only by the population of one particular settlement, where it is located, but also by the population of nearby settlements, which too use it. It is difficult, therefore, to conclude from this method the accurate serviced population. Identification of functional gaps using the scalogram analysis, similarly, poses a major problem, especially when it is discovered that higher order functions are located in lower hierarchy settlements and they are absent in the higher hierarchy settlements.

Because of the aforesaid limitations population thresholds and scalogram analysis were discarded and the third method was preferred for application in the present exercise in respect of Nadigaon. In using it, each function was assigned a weight. The weight itself was computed by dividing the total number of settlements in Nadigaon by the number

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<sup>1</sup> See, for instance L.K. Sen, et al, Regional Planning for Social Facilities : A Study in Miryalguda Taluka, (Hyderabad, National Institute of Community Development, 1968).

of settlements having that function. After assigning weights to all the functions included in the exercise, centrality scores of each settlement were worked out by multiplying the weights of functions present in that settlement and aggregating all such scores. A ranking of the settlements in a descending order of centrality scores was made to seek suitable cutting points which enabled fixation of hierarchy of the settlements. Functional gaps were then identified at different levels of the functional hierarchy.

Since an exercise of this nature requires up to date data on the availability of different functions in each of the settlement, the secondary data contained in the Statistical Handbooks and quite often valid only upto 1977-78, was not considered sufficient. Data for all the settlements in Nadigaon block were collected in February/March 1981 with the help of its B.D.O. and his team. The results, which follow, use the same data.

#### 4.3 Functions and Their Weights

In the identification of central places in Nadigaon and functional gaps in the central places, a total of 35 functions were included (Table 4.1). 19 of these were lower order, 11 middle order and 5 higher order functions. These functions were assigned weights by applying the methodology indicated earlier (Table 4.2). Six out of 37 functions (hospital,

Table 4.1  
Different Order Functions Included

Lower order functions	Middle order functions	Higher order functions
Primary School	Agricultural Implements Repair Shop	Degree College
Post Office	Veterinary Hospital	Cinema Hall
Private Medical Practitioner	Higher Secondary School	Regulated Market
Electricity	Commercial Bank	Cold Storage
Multipurpose Cooperative Society	Cooperative Bank	Telegraph Office
Pucca Road	Family Planning Centre	
Controlled Cloth Shop	Primary Health Centre	
Junior High School	Hospital	
Bi-Weekly Market	Fertilizer and Pesticides Distribution Centre	
Seed Distribution Centre	Police Station	
Stockman Centre	Post Office with Telephone	
Bus Stop		
Artificial Insemination Sub-Centre		
MCW Centre		
Dispensary		
Police Outpost		
Chemist and Druggist Shop		
Nyaya Panchayat Headquarter		
Block Headquarter		



Table 4.2

## Weights Assigned to Different Functions

Sl. No.	Function	Weight Assigned	Sl. No.	Function	Weight Assigned
1.	Primary School	1	16.	Chemist and Druggist Shop	35
2.	Pucca Road	3	16.	Commercial Bank	35
3.	Post Office	6	16.	Cooperative Bank	35
4.	Private Medical Practitioner	7	16.	Primary Health Centre	35
4.	Junior High School	7	16.	Fertilizer and Pesticides Distribution Centre	35
6.	Electricity	8	16.	Post Office with Telephone	35
7.	Bus Stop	11	22.	A.I. Sub-Centre	47
8.	Nyaya Panchayat Headquarter	16	22.	Family Welfare Centre	47
9.	Multipurpose Co-operative Society	20	24.	Stockman Centre	71
10.	Controlled Cloth Shop	24	24.	Police Outpost	71
10.	M.C.W. Centre	24	24.	Agl. Implements Repair Shop	71
10.	Higher Secondary School	24	24.	Veterinary Hospital	71
13.	Bi-Weekly Market	28	24.	Police Station	71
13.	Seed Distribution Centre	28	29.	Block Headquarters	142
13.	Dispensary	28			

degree college, cinema hall, regulated market, cold storage, and telegraph office) were not present in the block. As such, no weights were given to them.

#### 4.4 Functional Hierarchy of Settlements Based on Centrality Scores

With the help of method indicated earlier, centrality scores of all 142 settlements in the Nadigaon block were calculated. The settlements were then arranged in a descending order and assigned appropriate hierarchy of central places (Table 4.3 and Map 2). A total of 21 settlements figure in the four tier functional hierarchy in Nadigaon. Although given the label of a growth centre, Nadigaon is actually only a potential one at the moment considering the number and composition of its functional gaps. Bangra, Kailiya, Titra Khalilpur Parasram, and Rendhar, with centrality scores varying between 457 to 227, are the four service centres. Three out of these four are headquarters of their respective VLW circles. 11 villages are placed in the category of central villages. Their centrality scores vary between a high of 167 (Kanasi) to a low of 29 (Kanhri). The remaining 121 settlements in the block are dependent settlements (Appendix 1). The growth centre at Nadigaon is in the belly of the block and the four service centres too are fairly well distributed locationwise. Only in the case of central villages there is some concentration near the points of convergence of three VLW circles, Kanasi, Titra and Khaksis and absence of adequate number of central villages in the middle part of the ravine belt. The former is partly

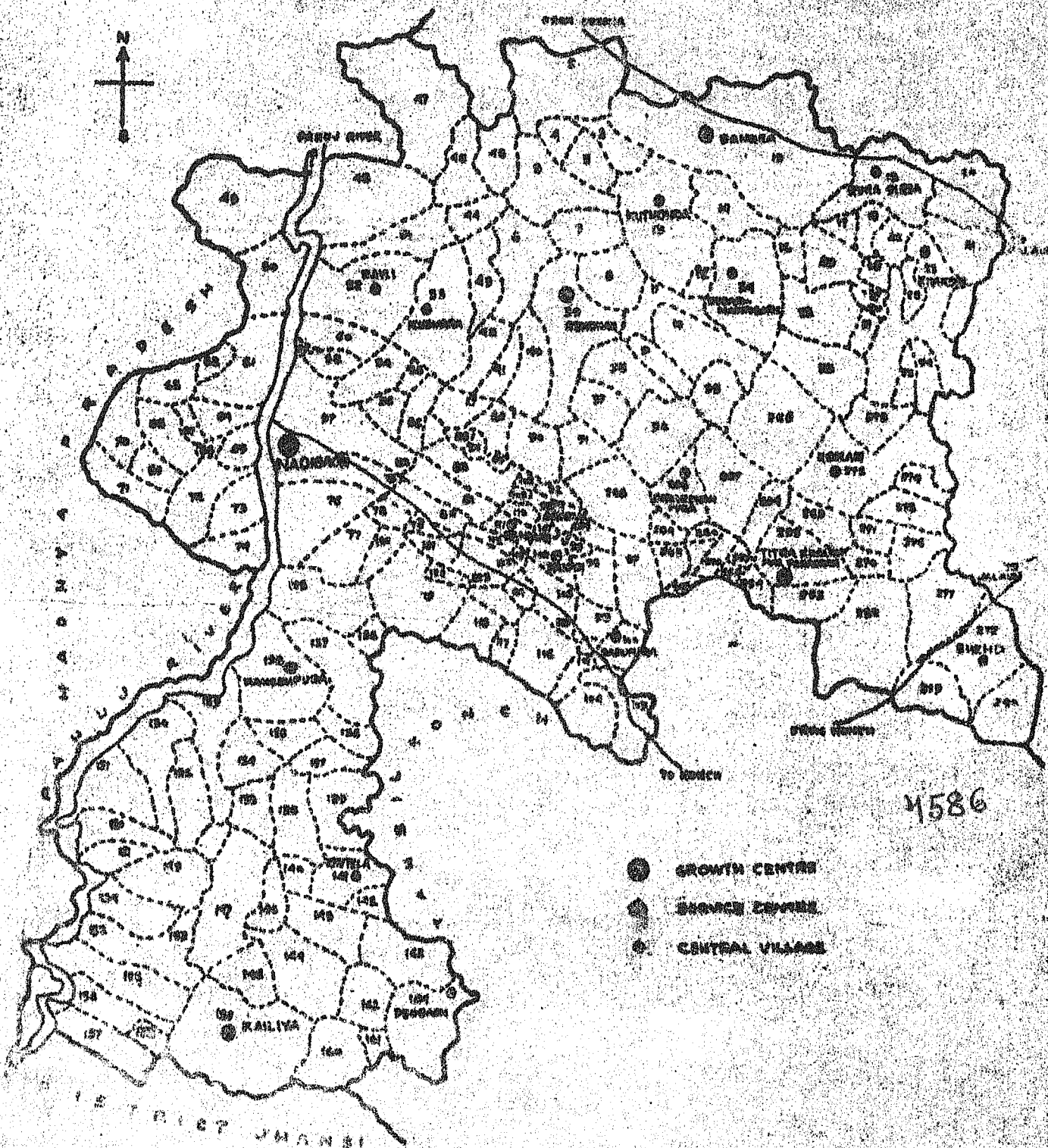




Table 4.3

## Identified Central Places in Nadigaon

Sl. No.	Settlement	Location code	Population (1979-80)	Centrality Score	Place in the Hierarchy
1.	Nadigaon	75	5066	996	Growth Centre
2.	Bangra	15	4794	457	Service Centres
3.	Kailiya	159	2385	398	
4.	Titra Khalilpur Parasram	255	350	258	
5.	Rendhar	39	2626	227	Central Villages
6.	Kanasi	106	383	167	
7.	Navli	52	2293	161	
8.	Khaksis	23	4741	160	
9.	Rura Sirsa	19	1429	133	
10.	Kuthonda	13	1985	97	
11.	Bhend	278	2181	88	
12.	Khutela	141	1450	78	
13.	Kudari Madhogarh	34	1876	69	
14.	Sadupura	100	834	58	
15.	Deogaon	164	1232	48	
16.	Keolari	272	2391	42	
17.	Maheshpura	128	870	36	
18.	Gobardhanpura	266	933	36	
19.	Kusmara	53	1390	32	
20.	Akniwa	93	1327	31	
21.	Kanhari	111	255	29	

because of better socio-economic condition of this part of the block and the adjoining parts of the Konch block. In the latter case absence of road net work seems to be the cause.

#### 4.5 Available Functions and Functional Gaps

After the identification of the central places, existing functions at each of these settlements were listed (Table 4.4 and Map 3). A comparison of the existing functions with the expected number and order of functions at these places enabled identification of functional gaps at these places. Ordinarily, this should be considered sufficient to make recommendations for locations of such identified functions at these central places. However, in the present case two additional and complementary exercises were made. First, the presence of the absent functions in the nearby settlements was carried out to avoid unnecessary location of certain level of functions at too close spatial proximity. Second, lower level functional gaps were weeded out if a higher order function was present. These exercises reduced the magnitude of the functional gaps at all three levels. The gaps which emerged after this (Table 4.4 and Map 4) are recommended to be filled as a part of the integrated area development of the Nadigaon block.



## EXISTING FUNCTIONS IN NADIGUN

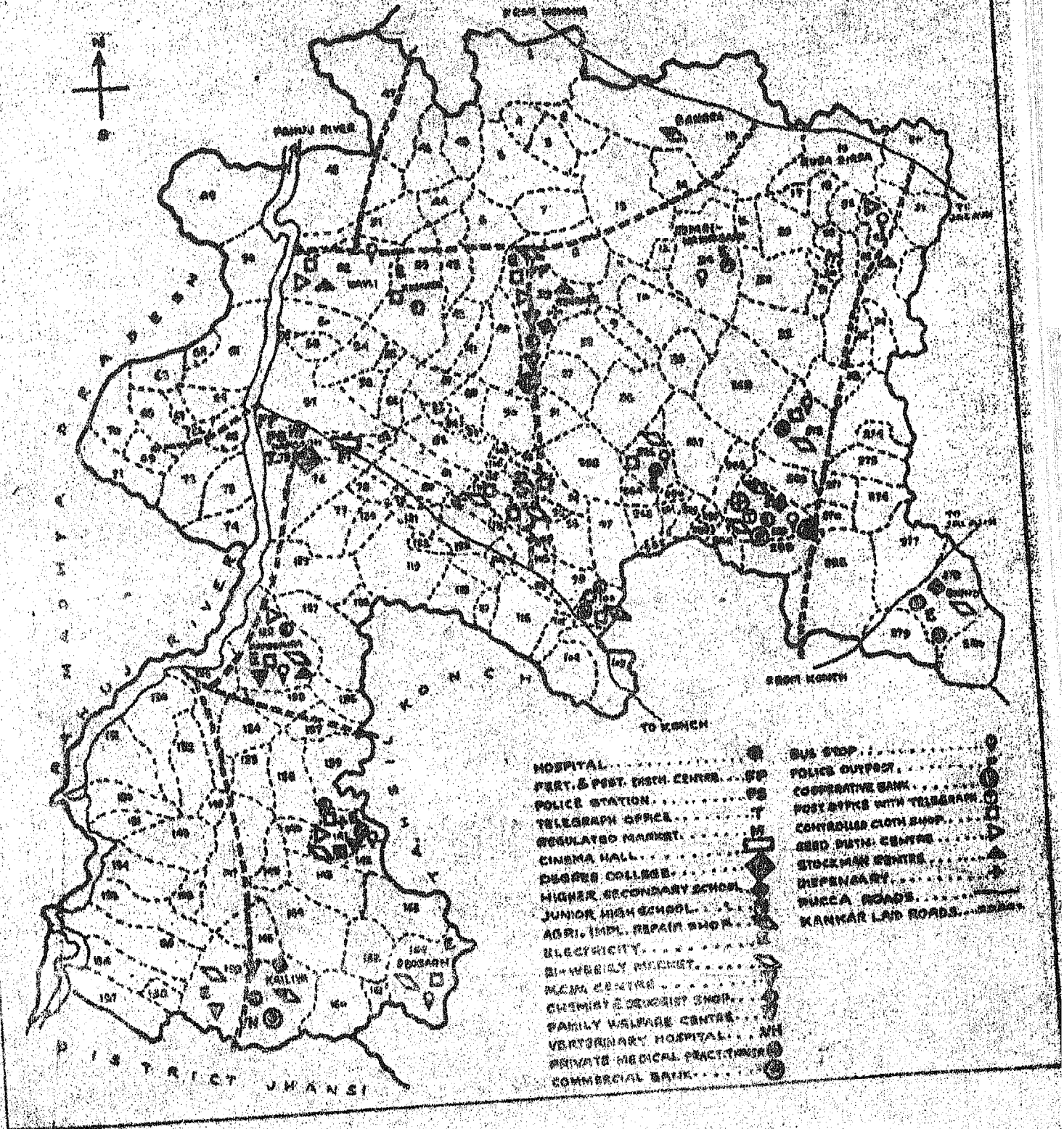






## MAP - 4

## PROPOSED FUNCTIONS IN NADIGAON



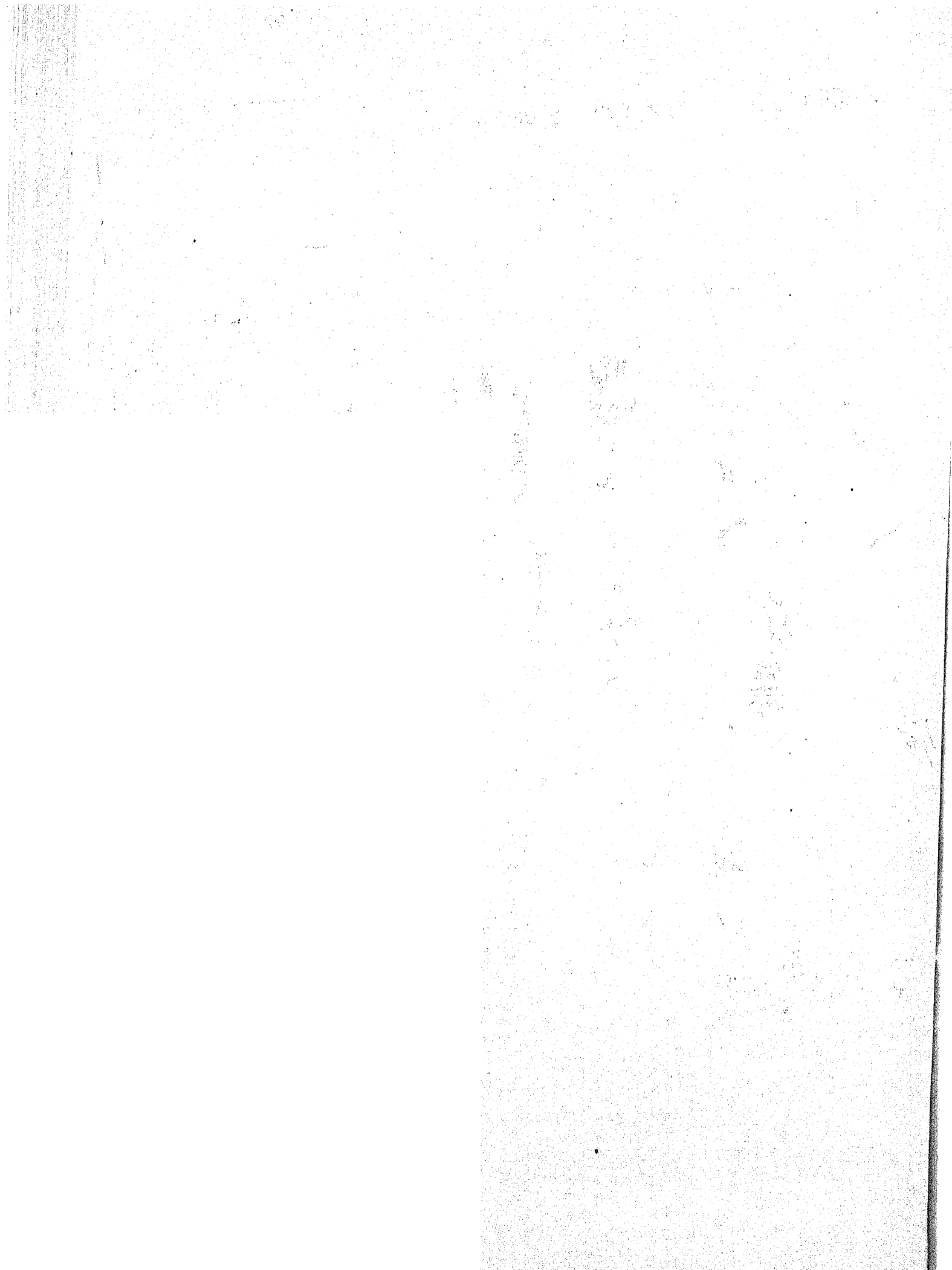


Table 4.4

## Existing Functions and Functional Gaps in the Identified Central Places

Loca- tion Code	Name of Settlement	Existing Functions	Functional Gaps
<u>Growth Centre</u>			
75	Nadigaon	Primary Schools, Private Medical Practitioners, Electricity, Multi Purpose Cooperative Society, Pucca Road, Controlled Cloth Shop, Junior High School, Bi-Weekly Market, Seed Distribution Centre, Bus Stop, A.I. Sub-Centre, M.C.W. Centre, Police Outpost, Chemist-Druggist Shop, Agricultural Implements Repairing Shops, Veterinary Hospital, Higher Secondary School, Commercial Bank, Family Welfare Centre, Primary Health Centre, Block Head Quarter, Cooperative Bank, Post Office with Telephone.	Hospital, Fertilizer and Pesticides Distribution Centre, Police Station, Telegraph Office, Regulated Market, Cinema Hall, Degree College.
<u>Service Centre</u>			
15	Bangra	Primary Schools, Post Office, Private Medical Practitioners, Electricity, Pucca Road, Nyaya Panchayat H.Q., Bi-Weekly Market, Seed Distribution Centre, Bus Stop, A.I. Sub-Centre, M.C.W. Centre, Chemist and Druggist Shop, Veterinary Hospital, Higher Secondary School, Commercial Bank, Primary Health Service, Fertilizer and Pesticides Distribution Centre, Post Office with Telephone.	Agricultural Implements Repairing Shop.

Table 4.4 (Contd.)

Loca- tion Code	Name of the Settlement	Existing Functions	Functional Gaps
159	Kailiya	Primary School, Post Office, Private Medical Practitioner, Multi-Purpose Co-operative Society, Pucca Road, Controlled Cloth Shop, Nyaya Panchayat H.Q., Junior High School, Seed Distribution Centre, Stockman Centre, Bus Stop, Dispensary, Fertilizer and Pesticides Distribution Centre, Cooperative Bank, Police Station, Post Office with Telegraph.	Electricity, Bi-Weekly Market, M.C.W. Centre, Chemist-Druggist Shop, Agri. Implements Repairing Shop, Family Welfare Centre, Veterinary Hospital, Higher Secondary School, Commercial Bank.
255	Titra Khalilpur Parasram	Post Office, Electricity, Multipurpose Co-operative Society, Pucca Road, Controlled Cloth Shop, Nyaya Panchayat H.Q., Seed Distribution Centre, Stockman Centre, A.I. Sub-Centre, Fertilizer and Pesticides Distribution Centre.	Chemist-Druggist Shop, Private Medical Practitioners, Bi-Weekly Market, Bus Stop, Police Outpost, Agri. Implements Repairing Shop, Higher Secondary School, Commercial Bank, Cooperative Bank, Post Office with Telephone.
39	Rendhar	Primary School, Post Office, Private Medical Practitioners, Pucca Road, Nyaya Panchayat H.Q., Junior High School, Bi-Weekly Market, Bus Stop, Commercial Bank, Police Station, Post Office with Telegraph.	Electricity, Controlled Cloth Shop, Seed Distribution Centre, M.C.W. Centre, Stockman Centre, Dispensary, Chemist-Druggist Shop, Agri. Implements Repairing Shop, Higher Secondary School, Family Welfare Centre, Fertilizer and Pesticides Distribution Centre, Cooperative Bank.
106	Kanasi	Primary Schools, Post Office, Private Medical Practitioner, Electricity, Multipurpose Cooperative Society, Pucca Road, Nyaya Panchayat H.Q., Junior High School, Seed Distribution Centre, Bus Stop, M.C.W. Centre, Fertilizer and Pesticides Distribution Centre.	Controlled Cloth Shop, Bi-Weekly Market, Veterinary Hospital.

Table 4.4 (Contd.)

Loca- tion Code	Name of the Settlement	Existing Functions	Functional Gaps
52	Navli	Primary School, Post Office, Pucca Road, Nyaya Panchayat H.Q., Junior High School, Bi-Weekly Market, M.C.W. Centre, Dispensary, Family Welfare Centre.	Controlled Cloth Shop, Seed Distribution Centre, Stockman Centre, Bus Stop.
23	Khaksis	Primary Schools, Post Office, Private Medical Practitioners, Electricity, Nyaya Panchayat H.Q., Junior High School, M.C.W. Centre, Commercial Bank, Family Welfare Centre.	Seed Distribution Centre, Stockman Centre, Bus Stop, Chemist-Druggist Shop.
19	Rura Sirsa	Primary Schools, Post Office, Electricity, Controlled Cloth Shop, Junior High School, Pucca Road, Multipurpose Cooperative Society, Bi-Weekly Market.	
13	Kuthonda	Primary Schools, Post Office, Pucca Road, Controlled Cloth Shop, Junior High School, Cooperative Bank.	
278	Bhend	Primary Schools, Post Office, Pucca Road, Junior High School, Bus Stop, M.C.W. Centre.	Private Medical Practitioner, Electricity, Controlled Cloth Shop, Bi-Weekly Market, Chemist-Druggist Shop.
141	Khutela	Primary School, Post Office, Police Outpost.	Private Medical Practitioner, Electricity, Pucca Road, Controlled Cloth Shop, Junior High School, Bi-Weekly Market, Seed Distribution Centre, M.C.W. Centre, Stockman Centre, Bus Stop, Dispensary, Chemist-Druggist Shop.

Table 4.4 (Contd.)

Location Code	Name of the Settlement	Existing Functions	Functional Gaps
34	Kudari-Madho Garh	Primary School, Post Office, Pucca Road, Junior High School, Dispensary, Higher Secondary School.	Private Medical Practitioner, Electricity, Bus Stop.
100	Sadupura	Primary School, Electricity, Pucca Road, Junior High School, Bus Stop, Dispensary.	Post Office, Private Medical Practitioner, Controlled Cloth Shop, Bi-Weekly Market, Chemist-Druggist Shop.
164	Deogaon	Primary School, Post Office, Private Medical Practitioner, Pucca Road, Junior High School, Higher Secondary School.	Electricity, Controlled Cloth Shop, Bi-Weekly Market, Bus Stop.
272	Keolari	Primary Schools, Post Office, Pucca Road, Junior School, Higher Secondary School.	Private Medical Practitioner, Pucca Road, Controlled Cloth Shop, Bi-Weekly Market, Bus Stop.
128	Maheshpura	Primary School, Private Medical Practitioner, Dispensary.	Electricity, Pucca Road, Controlled Cloth Shop, Bi-Weekly Market, Seed Distribution Centre, Stockman Centre, Bus Stop, M.C.W. Centre, Chemist-Druggist Shop.
266	Gobardhanpura	Primary School, Primary Health Centre.	Private Medical Practitioner, Electricity, Pucca Road, Controlled Cloth Shop, Bi-Weekly Market, Bus Stop.
53	Kusmara	Primary Schools, Multipurpose Cooperative Society, Pucca Road, High School.	Electricity, Controlled Cloth Shop, Chemist and Druggist Shop.
93	Akniwa	Primary School, Post Office, Higher Secondary School.	Controlled Cloth Shop, Bi-Weekly Market.
111	Kanhri	Electricity, Pucca Road, Junior High School, Bus Stop.	Controlled Cloth Shop, Bi-Weekly Market.



## Chapter 5

### PROPOSED PROGRAMMES

#### 5.1 Formulation Process

The programmes which have been proposed have emerged from the following route. After accepting the task of preparing an integrated development plan for Nadigaon block, the professional team of the formulating agency undertook an extensive tour of the block, met all the officials at the district and block levels and discussed with a large number of people of the block their needs, problems and possibilities. This was followed by an elaborate data collection exercise under which primary and secondary sources were tapped to obtain an inventory of resources of the block. After this data were processed, another round of discussions with the people of the block and its officials was held. The programmatic structure, direction of intended change and intensity of developmental efforts have, thus, largely been arrived as conclusions of this running dialogue between the planning team and the people for whom the programmes are meant.

#### 5.2 Assumptions Behind Proposals

Planning proposals are almost always prepared within the brief which the planners have. In the present case, the proposals, which follow, have been made with the following assumptions. First, they are primarily resource and need based. Second, functional integration involving general synchronization of related programmes with each other has been kept built in. Third, the proposals utilize the

results of identification of central places in the block especially the functional gaps (carried out in chapter 4) for deciding the spatial locations of functions. Fourth, the time frame of the block plan is five years within which its proposals have to be executed.

Although there is overall integration of programmes, their detailing is sectoral.

### 5.3 Agriculture

As indicated earlier (Chapter 2), Nadigaon's farming, the main economic activity of the block, is problematic. Although major parts of the block are fertile, and landholdings are fairly large, the area irrigated is low (only 31 per cent), area cropped more than once is less than one per cent, cropping pattern is unimaginative, use of fertilizers, pesticides and high-yielding varieties of seeds is low. While aiming generally to increase per unit productivity, the proposals given intend to attend to all these problems.

#### 5.3.1 Land Use Pattern

Of the total reported area of 49,877.25 ha. in Nadigaon, 4,520.08 (9.1 per cent) is cultivable waste, with another 1,906.13 ha. under forests. In order to produce structurally significant changes in Nadigaon's farming, it is proposed to change the land use pattern as detailed:

Table 5.1  
Proposed Land Use Pattern

Land Uses	Existing Area (Ha)	Proposed Area (Ha)
1. Total reported area	49,877.25	49,877.25
2. Forest area	1,906.13	1,906.13
3. Net irrigated area	15,765.37	18,130.18
4. Unirrigated area	24,480.73	22,115.92
5. Cultivable waste	4,520.08	3,842.07
6. Area not available for cultivation	3,205.03	3,205.03
7. Net area sown	40,246.10	42,610.91
8. Gross cropped area	40,420.49	50,735.00

Under the proposed land use pattern, the two major changes would be an increase in the area irrigated (an addition of 2,364.81 ha. or 4.7 per cent) and use of 678.01 ha. of cultivable waste. As a result, the net area sown would increase from 40,246.10 to 42,610.91 ha. and gross cropped area from 40,420.49 to 50,735 ha.

### 5.3.2 Crop Rotation

As a result of 15 per cent increase in the net irrigated area, the gross cropped area in the block would also increase during the next five years. The intensity of cropping, which is about 101 per cent at present, is likely to increase to at least 130 per cent. Two types of crop rotations have been recommended for Nadigaon block : one, which is emphasizing rotations of normal cereal crops and

confined to the flatland and highland areas; the second is emphasizing intensive cultivation of vegetables in the ravineous belt where a number of artisen wells are proposed to be built.<sup>1</sup>

First type of crop rotation would be as under:

- (a) Ground nut - wheat
- (b) Jowar - gram and rape seed
- (c) Maize - wheat and mustard
- (d) Paddy - wheat and mustard
- (e) Maize - gram and rape seed
- (f) Maize - potato - other vegetables
- (g) Maize - potato - fodder

The areas which would continue to be dependent on rains must attempt to cultivate fodder crops in Kharif season and sow coarse grains in Rabi.

The second crop rotation would be as under:

- (a) Maize - potato - potato
- (b) Maize - tomato - tomato
- (c) Maize - potato - peas
- (d) Maize - potato - potato - onion
- (e) Lady's Finger - maize - potato - onion

### 5.3.3 Area, Productivity and Production

Increase in production of agricultural crops is the overall objective of the proposals. However, the strategy

<sup>1</sup> The details are provided in the feasibility reports entitled 'Artisen Wells'; 'Intensive Cultivation of Vegetables'.

suggested, in decomposed elemental terms, involves contribution to be made by increased area as well as increased per unit production contributed primarily by greater use of inputs. In the crop-wise area, productivity and production proposals contained in Table 5.2, a flexible approach has been used. For example, for such crops where no high-yielding varieties are available increase in production, in per unit terms, is marginal whereas it is significant in cases where they are. The total area under Kharif crops is expected to increase from the current 10,415 acres to 15,619 acres and that of Rabi from 89,343 to 104,451 acres. The Zaid crops which are not being cultivated in any significant acreage at present are likely to cover 5,347 acres. The production of

Table 5.2  
Proposed Cropping Pattern, Productivity  
and Production

C r o p	Area (Acres)	Producti- vity (in Qtls)	Production (in Qtls)
1	2	3	4
<u>A. Kharif</u>			
1. Paddy	1,415	2.74	3,877.10
2. Jowar	4,551	3.53	16,065.03
3. Bajra	4,426	2.43	10,755.18
4. Arhar	2,645	7.54	19,943.30
5. Sugarcane	1,166	16.63	19,390.58
6. Others	1,416	2.87	4,063.92
Sub-total	15,619	-	74,095.11
<u>B. Rabi</u>			
1. Wheat	42,438	6.14	260,569.32
2. Barley	6,701	4.80	32,164.80
3. Gram	23,292	2.70	62,888.40
4. Pea	1,251	2.90	3,627.90

Table 5.2 (Contd.)

1	2	3	4
5. Oilseeds	9,202	1.30	11,962.60
6. Potato	983	65.00	63,895.00
7. Others	20,584	1.80	37,051.12
Sub-total	104,451	-	472,159.14
<u>C. Zaid</u>			
1. Maize	4,987	2.9	14,462.23
2. Vegetables	350	1.8	630.00
Sub-total	5,347	-	15,092.23
Total (A+B+C)	125,417	-	561,346.48

Kharif crops currently about 34,577.80 quintals is likely to be 74,095.11 quintals : the Rabi production figures are expected to increase from the current figure of 384,174.90 quintals to 472,159.14 quintals. The Zaid crops are to yield an additional 15,092.23 quintals.

#### 5.3.4 High Yielding Varieties

At the moment, the area under HYV in Nadigaon is very meagre. However, as larger irrigation potential is likely to be created under these plan proposals, and per unit productivity increases are to be achieved, use of high yielding varieties in combination with the chemical fertilizers and pesticides are the prime objectives. It is proposed to bring 9,735 acres under the high yielding varieties during the plan period. The targets for different crops are : paddy - 309 acres; maize - 62 acres; jowar - 94 acres; wheat - 9,270 acres.



Table 5.3

Inputs Needed for the HVV Programme

HVV	Seed (Qtls)	Fertilizers (Qtls)			Pesti- cides (Rs. lacs)	Financial Requirement (Rs. Lac)	
		N	P	K		Outlays	Subsidy
1. Paddy	22.50	100	50	50	0.15	0.16	0.06
2. Maize	3.75	20	10	10	0.10	0.19	0.05
3. Wheat	3750.00	300	150	150	0.70	26.48	8.83
4. Jowar	2.25	22.50	11.25	7.50	0.05	0.12	0.04
TOTAL	3778.50	442.50	221.25	217.50	1.00	26.95	8.98



The input requirements of seeds, fertilizers etc. were worked out at the following rates : seeds - for paddy, maize, wheat and jowar at 7.28, 6.06, 40.45 and 2.42 Kg. per acre respectively; fertilizer -/32.36 N<sub>2</sub>, 16.18 P<sub>2</sub> and 16.18 K<sub>2</sub> Kgs. per acre and for jowar 24.27 N<sub>2</sub>, 12.14 P<sub>2</sub> and 8.09 K<sub>2</sub> Kgs. per acre. Table 5.3 gives these details.

Out of a total provision of Rs.36.93 lakhs, Rs.8.98 lakhs are in the form of subsidies to be given to the small and marginal farmers. These have been suggested because the SFDA and MFAL agencies have already been operating them.<sup>2</sup> Of the total requirements, the state sector is to contribute Rs.16.30 lakhs, institutional finance Rs.12.31 lakhs and the beneficiaries themselves Rs.76.67 lakhs.

In order to popularize the use of HYV on the one hand and dry land farming techniques on crops such as arhar, jowar, ground nut, gram, etc. on the other, it is proposed to organize 40 half acre demonstrations at the state cost of Rs.0.24 lakh on the following pattern.<sup>3</sup> The organizers, the agriculture department, and the farmer share the cost 50 : 50; the farmer gets all the technical supervision free; the supplies of inputs are ensured by the organizers; the crop

<sup>2</sup> Since 1980 Kharif season, the U.P. Government have also given subsidies on the purchase of fertilizers by these two categories of farmers even in places where these agencies do not exist.

<sup>3</sup> The essentials of these are drawn from the IADP Thanjavur experience. See, for example, H.S. Verma, The Organizational Structure of IADP Thanjavur (Ahmedabad, CMA, Indian Institute of Management, 1976) for the details.

yield is purchased by the department at a rate higher than the prevailing market rate.

In the organisation of the demonstrations, help of farm and extension scientists of Kanpur and/or Pantnagar Agricultural Universities and sub-centres of International Crop Research Institute for the Semi-Arid Tropics (ICRISAT) located at Gwalior (MP) and Hissar (Haryana), is to be obtained.

Table 5.4

Proposed Half Acre Demonstrations

C r o p	Number of demo- nstrations	Cost per demonst- ration (Rs.)	Total cost (Rs.)
<u>Assured Irrigation Crops</u>			
1. Paddy	4	800	3,200
2. Maize	3	400	1,200
3. Wheat	8	700	5,600
<u>Dry Land Farming</u>			
1. Jowar	6	500	3,000
2. Arhar	8	700	5,600
3. Gram	7	400	2,800
4. Ground nut	4	500	2,000
Total	40		23,400

5.3.5 Agricultural Service Centres

The number of larger landholdings in Nadigaon is quite large and the soil of the major portion of the block is black which requires greater energy input for ploughing and other agricultural operations. Use of indigenous breed

of draught animals is, consequently, not found useful. Easy availability of credit has enabled the farmers to go in for the purchase of tractors and allied agricultural implements. To service the existing farming machinery and to make it available on custom hiring to the segment which needs them without having the capacity to own them, it is recommended to have one major agro-service centre at Kanasi<sup>4</sup> and four smaller service centres located at Kailiya, Titra Khalilpur Parasram, Rendhar and Bangra.

Table 5.5

Implements at Proposed Agro-Service Centres

Implements	Centres				
	Kanasi	Kailiya	Titra Khalilpur Parasram	Rendhar	Bangra
1. Tractor	2	1	1	1	1
2. Cultivator	2	1	1	1	1
3. Disc Harrow	2	1	1	1	1
4. Thresher	2	2	2	2	2
5. Leveller	2	1	1	1	1
Total	10	6	6	6	6

The Kanasi centre shall also have a modest workshop with a foreman, two mechanics and two apprentices and with lathes, air-compressor, grinders, drills, reboring bars, and other allied accessories to facilitate major repairs and overhauls of the tractors and other farm equipments

<sup>4</sup> For details, see the feasibility report on 'Agro-Service Centre in Nadigaon Block'.

satisfactorily. The four smaller service centres would have one mechanic and one apprentice each and accessories there would be just enough to enable them handle only repair but not major overhaul jobs. The financial outlays for the centres would be : total requirement - Rs.13.86 lakhs. Out of this, Rs.4.22 lakhs would be for the Kanasi centre and Rs.9.64 lakhs for the four smaller centres at the rate of Rs.2.41 lakhs per centre (Table 5.6). The state sector is expected to contribute Rs.3.37 lakhs and the remaining Rs.10.49 lakhs are to come through institutional finance sources.

Table 5.6

Financial Requirements of the Agro-Service Centres

Items	Expenditure (Rs.lakhs)	
	Kanasi	Smaller Centres (4)
1. Capital cost (land, building, fixtures, machines, workshop etc.)	3.28	7.84
2. Operating costs (salaries, maintenance, spares etc.)	0.94	1.80
Total	4.22	9.64

5.3.6 New Input Distribution Outlets

As seen earlier (chapters 2 and 4), the spatial distribution of the input distributing institutions such as the multi-purpose cooperative societies, seed, fertilizer and pesticide distribution centres had obvious gaps. In order to make the distribution of inputs a more balanced exercise,

it is proposed to establish four seed distribution centres (at Rendhar, Khaksis, Khutela and Maheshpura), and two fertilizer and pesticide distribution centres (at Nadigaon and Rendhar). The total outlay required is Rs.3.50 lakhs to be provided by the state sector. Out of this Rs.2.80 lakhs is for the four seed distribution centres (at the rate of Rs.0.70 lakh per centre) and Rs.0.24 lakh for the fertilizer and pesticides distribution centres (at the rate of Rs.0.12 lakh per centre). The working of the existing seven multi-purpose cooperative societies needs to be strengthened through appointment of more staff and increasing their membership.

#### 5.4 Afforestation and Soil Conservation

Peculiar terrain, topography and climate of Nadigaon block have made soil erosion as one major problem being faced especially in Bangra, Rendhar, Navli, Gidwasa, and Maheshpura VLW circles. Afforestation, reclamation of cultivable waste through suitable soil conservation methods and land improvement of the cultivated area are, therefore, prime needs. During the next five years, it is proposed to make 678.10 ha. of cultivable waste available for cultivation, execute afforestation programme in the 500 ha. of forest area of the block, and introduce land improvement measures in about 250 ha. of the cultivated area. The steps to be taken under these three inter-related programmes include levelling, bunding, fencing, planting of trees suitable for semi-arid climates, providing channels for the flow of rain/

storm water, etc. Per hectare costs of such measures would be Rs.1,500. Total costs involved under these programmes would be Rs.21.42 lakhs : afforestation, reclamation of cultivable waste and improvement of cultivated area programmes would claim Rs.10.17, 7.50 and 3.75 lakhs respectively. Out of this the state sector would contribute Rs.20.17 lakhs and the beneficiaries Rs.1.25 lakhs. The Forest Ranger at Nadigaon would be key official in the organisation of these programmes in which agriculture and public works departments would also participate actively.

### 5.5 Irrigation

Although the annual average of rainfall in Nadigaon block is not very high, two out of its three regions (i.e. ravine belt and highlands) have a fairly good irrigation potential lying still untapped.<sup>5</sup> At the moment, only 31 per cent of the cultivated area is irrigated. To achieve the overall targets of agricultural production, it is proposed to create, during the next five years, an additional irrigation potential of 5,943 acres. Since the ravine area villages have a long-stretched artisen belt and the neighbouring highland areas sufficient amount of untapped ground water resources, this additional potential would be created in these two regions generally. The break-up of area to be

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<sup>5</sup> The flat lands area is well served by canals and its irrigation potential, especially the hectare metres nearby the canals recharged, cannot be fully exploited by establishing tubewells because the irrigation department would not allow it.



irrigated by sources of irrigation and costs to be incurred are given in Table 5.7. Four types of irrigation sources

Table 5.7  
Proposed Irrigation Potential and Costs

Sl. Source of Irrigation No.	of Proposed Units	Per Unit Coverage (Acres)	Total Coverage (Acres)	Per Unit Cost (Rs. lakhs)	Total Cost (Rs. lakhs)
1. Artisen Wells	65	12.50	812	0.10	6.50
2. Deep Bored Wells with Pump Sets	115	25	2,875	0.20 1.87*	24.87
3. Masonry Wells with Persian Wheels	500	2.472	1,236	0.12	60.00
4. Ground Level Pump Sets	200	5	1,000	0.07	14.00

\* Cost of one blasting unit equipment for deep bored drilling.

are envisaged. The artisen wells are to be located in Nadigaon, Kamra, Mau, Salayya Bujurg, Lahoodi, Jaitpura, Navli, Roop Pura and Budhera.<sup>6</sup> The deep bored tubewells are to be located in Lahoodi, Langanpura, Navli, Kamra, Sajera, Arjunpura, Daang Sajera, Bhakraul, Daang Khajuri, Ghilaur, Daang Bhakraul, Roop Pura, Jaitpura, Mau, Kemra, Budhera, Laadupura, Dabar, Pipri Kalan and Deogaon. The masonry wells with persian wheels and the surface level pumpsets are to be installed in the ravine belt and highland villages.

The total investment envisaged during the five year period is Rs.105.37 lakhs. Out of this about Rs.27.75 lakhs

<sup>6</sup> For details, see the feasibility report on the Artisen Wells in Nadigaon Block.



would have to be provided by the state government in the form of subsidies to the farmers establishing these units. It is expected that the farmers themselves would be able to invest another Rs.25.87 lakhs from their own resources : the remaining Rs.51.75 lakhs would be advanced by land development, cooperation, and commercial banks under their agricultural credit programmes as medium-term loans.

Total increase in agricultural production of Nadigaon is expected to be 461,588 quintals. The soil conservation, afforestation, land improvement, increased acreage, and irrigation facilities, and use of other agricultural practices would all contribute toward this effort.

#### 5.6 Animal Husbandry

About 70 per cent of Nadigaon's cattle population, as seen earlier (chapter 2), consists of cattle of both cow and buffalo progenies. Together they provide milch source and draught power. Although their total number is as large as 45,105 their breed is indigenous. Consequently, the milch yield per cow/buffalo is very low and the draught capacity of the bullocks/he buffaloes is not of the required nature, especially for areas such as Bangra, Rendhar, Khaksis, Titra, and Kanasi. The other important animals in the block are goats and sheep. The breed stock of these two, although relatively better than the milch and draught cattle, needs further improvement. The general thrust of the proposed animal husbandry programme in Nadigaon block, therefore, is

on breed improvement, in addition to generating additional income to the beneficiary groups. In specifics these include:

#### 5.6.1 Milch and Draught Cattle

This programme is primarily intended for the small and marginal farmers and the landless although the other segments of rural population are not kept out of its purview. It is proposed to procure and distribute, in the ten VLW circles, 300 Tharparkar cows and 450 Murrah she-buffaloes and 20 bulls and 20 he-buffaloes (Table 5.8). As a policy measure the number of these cattle is suggested to be distributed in such a manner so as to normalize their present somewhat skewed distribution. The total cost of this programme is estimated to be Rs.20.50 lakhs. The share of state sector and institutional finance is likely to be Rs.7.50 lakhs and Rs.13 lakhs respectively. Out of this, the outlays on cows and buffaloes are Rs.6 and 13.50 lakhs : Rs. 1 lakh is to be spent on 40 stud bulls and he-buffaloes which would be used to improve the cattle breed. These stud animals would be kept at the veterinary hospitals/centres/sub-centres wherever they exist : in all other cases they may be stationed with some family which would assume the responsibility of their upkeep and use.

Table 5.8

Units, Beneficiaries and Costs of Proposed Milch and Draught Cattle Programme

Sl. No.	VLW Circle	Units to be <sup>1</sup> Distributed		Beneficiaries <sup>2</sup>				Total Costs <sup>3</sup> ( in Rs. lakhs)		Total <sup>4</sup>
		Cows	Buffaloes	SF	MF	LL	Others	Cows	Buffaloes	
1.	Bangra	5	32	8	8	16	5	0.10	0.96	1.16
2.	Khaksis	32	44	19	15	23	19	0.84	1.32	2.06
3.	Rendhar	40	55	24	22	25	24	0.80	1.65	2.55
4.	Navli	26	12	8	11	10	9	0.52	0.36	0.98
5.	Gidwasa	38	70	28	25	27	28	0.76	2.10	2.96
6.	Maheshpura	50	48	24	25	25	24	1.00	1.44	2.54
7.	Jaganpura	60	64	29	32	32	31	1.20	1.92	3.22
8.	Kailiya	5	55	16	14	15	15	0.10	1.65	1.85
9.	Titra	4	10	3	3	4	4	0.08	0.30	0.48
10.	Kanasi	40	60	20	17	38	25	0.80	1.80	2.70
TOTAL		300	450	179	172	215	184	6.00	13.50	20.50

1. Number of units have been decided keeping in view the present population of cows/buffaloes.

2. These do not necessarily reflect the proportion of small, marginal farmers, landless and other people in these circles. They indicate policy prescription.

3. Assumed per unit costs for Tharparkar cows and Murrah buffaloes are Rs.2,000 and Rs.3,000 respectively.

4. Includes costs of two bulls and one buffaloes in each case.

### 5.6.2 Cattle Fodder

A general cultural phenomenon of Bundelkhand region is that the cattle heads are left free to fend for themselves, in search of fodder and water during the summer season. This results in loss and death of a large number of animals annually on the one hand and general negative impact on their health and productive potential on the other. It is, therefore, proposed to popularize fodder cultivation in the canal irrigated area of Titra, Khaksis, and Kanasi circles and the artisen wells belt in the ravine areas of Navli, Gidwasa, Maheshpura and Jaganpura circles. Not much breakthrough seems to have been achieved by the research institutions in developing any suitable dryland fodder crop and, as such, this programme is expected to concentrate only on the available fodder crops of Barseem and M.P. Chari.

The package of incentives for fodder cultivation would include, free distribution of fodder seeds to the weaker sections and subsidy to others, and preference in inclusion under the milch/draught cattle distribution programme (and also attendant subsidy thereunder). It is proposed to bring about 200 acres under the fodder crops. Out of this, the share of Barseem and M.P. Chari would be 180 and 20 acres respectively. Per acre requirements of seeds for these two would be about 10 kg. and 16 kg. respectively and their costs

per quintal are Rs.700 and Rs.350. The total seed requirements for Barseem would be 18 quintals and for M.P. Chari 1.25 quintals and the cost would be Rs.12,600 and Rs.438 respectively. A total expenditure of Rs.13,038 per annum is envisaged from the state sector. At the end of five years, it is expected that the programme would have become popular enough to progressively withdraw the free seed sale facility.

### 5.6.3 Goat Rearing

The ravine belt of the block consisting of about 25 villages from Navli, Gidwasa, Maheshpura, Jaganpura and Kailiya circles is cut into a large number of ravines and nullahs upto a considerable distance. This slopy area also has forests and some soil conservation measures as digging of trenches, contour bunding, planting of bushes have been undertaken. This area is, therefore, ideal for the popularization of sheep and goat rearing. Since the sheep-rearing is already at a fairly successful stage in its implementation, it is proposed to execute a goat-rearing programme in this tract<sup>7</sup>. The programme is likely to supplement the income and diet of the poor families, and improve the quality of goat stock. It is proposed to supply Jamunapari goats to the families covered by the project since these yield, on an average, 2.50 litres of milk during milking season.

It is proposed to cover poorest 300 families scattered in Nadigaon, Gidwasa, Khijri, Sikandarpur, Navli, Parsani,

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<sup>7</sup> A detailed description can be seen in the feasibility report on Goat-rearing Project in Nadigaon Block.

Baseeth, Mau, Bhenda and Kusmara villages (Table 5.9).

Table 5.9  
Coverage and Cost of Goat-Rearing Programme

Sl. No.	Village	Number of			Cost (Rs. lakhs)
		Beneficiaries	Goats <sup>1</sup>	Bucks <sup>2</sup>	
1.	Nadigaon	70	210	4	0.86
2.	Gidwasa	30	90	2	0.37
3.	Khijri	20	60	1	0.24
4.	Sikandarpur	20	60	1	0.25
5.	Navli	40	120	3	0.49
6.	Parsani	20	60	1	0.24
7.	Baseeth	20	60	1	0.25
8.	Mau	20	60	1	0.25
9.	Bhenda	50	150	3	0.61
10.	Kusmara	10	30	1	0.12
Total		300	900	18	3.69

1. Cost of goat assumed to be Rs.400.

2. Cost of buck assumed to be Rs.500.

The size of one goat unit has been kept at three female goats. The total cost of the project is estimated to be Rs.3.69 lakhs out of which about 50 per cent is in the form of subsidy to be provided by the state government and another 50 per cent in the form of medium term loan to be repaid by the beneficiaries in about 7 years' time. The project is likely to be of immense economic and social benefit and the gross returns in the first year would amount to Rs.490 to the rearer on a starting flock of three goats. These would rise to Rs.1,570 in the seventh year.

#### 5.6.4 Veterinary Institutions

The existing network of veterinary institutions is not

satisfactorily meeting the demands of health care of the livestock population. The suggested programmes are going to increase the task further. It is, therefore, proposed to establish two veterinary hospitals (at Kailiya and Kanasi) and five stockman centres (at Khaksis, Navli, Rendhar, Mahesh-pura, and Khutela). The total investment needed would be Rs.5 lakhs. Out of this amount, Rs.2.50 lakhs are for the two veterinary hospitals and another Rs.2.50 lakhs are for the five stockman centres. This is to be provided by the state sector.

## 5.7 Manufacturing Industry

Industrial development in Nadigaon has just not taken place and the planned efforts have not been made so far to exploit the physical, and human resources of the area. Because it is a remote, isolated place lacking in vital infrastructural facilities, entrepreneurs have not made any efforts to start manufacturing activities. The proposed programme of industrial development is a combined package of organised small scale industries, and cottage and village industries aimed to provide employment, and additional income to the people of the area. The location of the units has been suggested keeping the centrality of the places in mind. The programme consists of:

### 5.7.1 Small Scale Units

Keeping the overall resource position of the block in view, it is proposed to locate 18 small scale units in



Nadigaon block. The distribution of the units at the identified central places and estimated costs have been given in Table 5.10. The 18 units are distributed in four places : Nadigaon - 6, Kailiya - 4, Bangra and Sadupura - 3 each and Kanasi - 2. The total investment anticipated is Rs.43.38 lakhs. Out of this, about Rs.26.89 lakhs are to be spent on capital expenses and the remaining Rs.16.49 lakhs on working capital. The contribution of the state sector, institutional sources of finance and the entrepreneurs is Rs.12.52 lakhs, Rs.25.06 lakhs and Rs.5.80 lakhs respectively.

Table 5.10

Location, Number and Estimated Costs of Proposed Small Scale Units

Sl. No.	Unit Type	Number and Location					Estimated cost (Rs. lakhs)
		Nadigaon	Bangra	Kailiya	Sadupura	Kanasi	
1.	Agricultural Implements	1	-	1	-	-	2.20
2.	Printing Press	1	-	1	-	-	1.40
3.	Bone Mill	-	-	-	1	-	9.06
4.	Vegetable Dehydration	1	-	-	-	-	3.11
5.	Saw Mill	1	1	1	-	-	5.55
6.	Dal Mill	1	-	-	-	1	7.78
7.	Oil Extraction	-	1	-	1	-	2.20
8.	Brick Kiln	1	1	1	1	1	12.08
Total		6	3	4	3	2	43.38

### 5.7.2 Cottage and Village Industries

Apart from the small scale industries, it is proposed to organise cottage and village industries with the help and

assistance of the Khadi and Village Industries Commission. The number, location and their estimated costs are given in Table 5.11. A total of 17 units are proposed at four central places. The total estimated cost of these units is Rs.8.13 lakhs. The Khadi and Village Industries Commission is to provide Rs.4.07 lakhs in the form of a loan to the participants under their various itemized schemes : they would also provide the organisational framework for the marketing of the output from these units. The state sector and the artisans themselves would contribute Rs.2.03 lakhs each.

Table 5.11  
Number, Location and Costs of Proposed  
Cottage Industries

Sl. No.	Cottage Industry	Number and Location				Estimate cost (Rs. lakhs)
		Nadigaon	Bangra	Kailiya	Kanasi	
1.	Soap Making	1	1	1	-	0.65
2.	Match Box	1	1	2	-	3.26
3.	Oil Extraction	1	1	1	1	1.86
4.	Leather	1	-	-	1	1.56
5.	Carpentry and Smithy	1	1	1	1	0.80
Total		5	4	5	3	8.13

### 5.8 Roads

As seen earlier, the length of metalled roads in the block is only 100 Kms. Maheshpura, Jaganpura and Kailiya circles are not well connected by the road network. If one has to go to Kailiya from Nadigaon, he is required to go to Konch first from where one could get a bus to Kailiya. Maheshpura

and Kailiya are connected by a kutcha road but Nadigaon and Maheshpura are not. In view of high cost of laying metalled roads in the tortuous topography only one new road is proposed to be built. It is 10 Kms. road between Nadigaon and Maheshpura which would result in a vital link up between Nadigaon and Kailiya via Maheshpura. It is proposed to make the following existing kutcha roads as Kankar laid roads during the next five years (Table 5.12). The laying of one new road with the fresh earth work, laying of Kankar and construction of small bridges etc. on it is likely to cost Rs.28 lakhs.

Table 5.12

Proposed Kankar Laid Roads and Their Costs

Sl. No.	Description	Distance (Kms)	Cost* (Rs. lakhs)		
			Road	Bridges**	Total
1.	Kamsera - Dhanora (on to Konch)	20	12.00	6.00	18.00
2.	Bangra - Navli	22	13.20	4.50	17.70
3.	Maanpura - Navli	8	4.80	1.20	6.00
4.	Rendhar - Tilokpura (on to Konch)	18	10.80	3.20	14.00
5.	Nadigaon - Sajera (across Pahuji)	8	4.80	42.00	46.80
6.	Mau - Mansukhpur	8	4.80	0.80	5.60
7.	Mau - Kailiya	18	10.80	2.80	13.60
Total		102	61.20	60.50	121.70

\* Kankar laying costs Rs.60,000 per km.

\*\* The costs of bridges vary depending upon their size, nature, and allied work connected with them.

Laying of Kankar on the seven existing kutcha roads, totalling about 102 kms. is going to cost Rs.61.20 lakhs. The cost of bridges to be built on these roads would be another Rs.60.50 lakhs. This includes construction of a major bridge, and approach work on the river Pahuj at Nadigaon costing about Rs.40 lakhs. This bridge must be built to open the block to the adjoining region of M.P. and facilitate its interaction with its economy. Total costs of proposed road programme would, thus, be Rs.149.50 lakhs, which would have to be entirely borne by the state sector.

### 5.9 Power

At the moment, only 17 out of 142 of Nadigaon's villages are having electricity connections. Five out of ten VLW circles (Rendhar, Navli, Maheshpura, Jaganpura and Kailiya) do not have electricity lines. The actual alignment of electricity lines is such that areas connected with Jalaun town on the one side and Konch on the other have power facility. Only exception to this is a line from Konch to Nadigaon in the belly. There is, therefore, urgent need of extending the H.T. and L.T. lines to Maheshpura, Jaganpura and Kailiya on one side and Navli and Rendhar on the other. This would involve laying of about 92 kms. of H.T. lines and 120 kms of L.T. lines and connect another 40 villages during the next five years. It would, then, be possible to link up all the central places in the block with the electricity grid. This programme should be carried out in two phases : the first stage would involve laying of H.T. and L.T. lines on

the north-south axis with Navli in the north, Gidwasa in the upper middle, Maheshpura and Jaganpura in the lower middle and Kailiya in the lowest part. The second stage would consist of connecting villages from this grid. The total cost of this project is likely to be Rs.32 lakhs which could be entirely funded by the Rural Electrification Corporation.

#### 5.10 Education

Educational infrastructure in Nadigaon block displays one major peculiarity. The number of lower order educational institutions (i.e. primary, junior and higher secondary schools) is quite impressive. Only four identified central places lack these types of institutions (one junior high school, three higher secondary schools). Among the higher order educational institutions the block lacks a degree college. The institutional abundance, however, is not accompanied by qualitative excellence. As a result, the delivery of educational facility to the students and achievement of set goals is not satisfactory. During the next five years, therefore, it is proposed to execute a two-pronged educational programme under which minor expansion of institutional network is to be accompanied by a significant effort to improve quality.

Under the expansion programme, it is proposed to establish one junior high school (at Khutela), three higher secondary schools (at Kailiya, Titra Khalilpur Parasram, and Rendhar) and one degree college (at Nadigaon). The estimated cost of these would be Rs.31.37 lakhs (Rs.1.37 lakhs for junior

high school, Rs.12 lakhs for the higher secondary schools and Rs.18 lakhs for the degree college). This would have to be borne by the state sector.

The qualitative improvement of the existing educational institutions would involve strengthening of the staff, provision of books and other pedagogical equipment, development of other aspects of the children's personality (in addition to transfer of knowledge and skills) through a series of extra-curricular and extra-mural activities. This programme shall be operative in educational institutions of all the levels and is expected to cost about Rs.15 lakhs.

#### 5.11 Medical and Health Services

As seen earlier (chapter 2), the location of existing eighteen governmental health care institutions in the block is somewhat problematic. Rendhar and Jaganpura circles do not have any such institutions. This disparity is further confounded by the concentration of private medical facilities at places where publicly established institutions are also functioning. To provide the medical and health care facilities in a more equitable manner, it is proposed to establish four MCW centres (at Rendhar, Maheshpura, Khutela, and Kailiya), two dispensaries (at Rendhar and Khutela), two FW centres (at Kailiya and Rendhar) and one hospital (at Nadigaon) during the next five years. Seven private practitioners may set up their private practice (at Titra Khalilpur Parasram, Bhend, Khutela, Kudari Madhogarh,

Sadupura, Keolari, and Gobardhanpura) and chemists and druggists shops may be set up at eight places (Khaksis, Rendhar, Kusmara, Maheshpura, Khutela, Kailiya, Titra Khalilpur Parasram, and Sadupura) during the same period. The total costs for establishing public medical and health institutions would be Rs.14.38 lakhs. Of these, Rs.3.75 lakhs are for the MCW centres, Rs.1.88 lakhs for the FW centres and Rs.8.75 lakhs for the 20 bed hospital. The costs of the private facilities are to be borne by the concerned people.

#### 5.12 Drinking Water Supply

All the 142 villages of the block do not experience any difficulty in the supply of potable water throughout the year. However, in many large-sized villages in the ravine and the highland belts families belonging to weaker sections have to go long distances within the villages to draw water. Potable water of the available village wells, however, is not always germ free and it often contributes to the spread of many water-borne diseases. Keeping these considerations in view, the Jal Nigam has made a survey of a cluster of villages in Gidwasa circle. It is likely to firm up a scheme of piped-water supply to a number of villages to remove the above two problems.

#### 5.13 Recreational Facilities

In the post-independence period, there has been switch from the individual participatory folk forms of entertainment (i.e. songs, drama, Nautanki, Ramlila, other collective and



large scale festivals) to the capsuled mass forms (i.e. films, radio, television) of entertainment. In case of Nadigaon, the general decline of folk forms has not been followed by opening up of cinema theatres, etc. anywhere. People are, therefore, almost totally dependent on radio and see the films as and when they come to Orai, the district headquarters of Jalaun district. Among the identified central places, only Nadigaon can possibly be considered for the location of a cinema theatre. However, it is doubtful if the settlement and its interacting population provides the required threshold level to sustain it. The administration may, therefore, consider issuing a touring licence to a suitable local entrepreneur who could be provided sites at Nadigaon, Bangra, Rendhar, and Titra Khalilpur Parasram for exhibiting films at rates much lower than the posh and huge built-up theatre units. The costs involved would be borne by the entrepreneur.



## Chapter 6

### EMPLOYMENT POTENTIAL

#### 6.1 Methodology of Estimating Labour Force and Workers Employed

One of the major objectives of this plan is to reduce unemployment and generate additional income. It is, therefore, essential to quantify the degree by which the implementation of this plan would reduce unemployment. To do so, the estimates of total population, labour force, workers employed and backlog of unemployment have been computed first. Additional employment likely to be generated by the proposed schemes has then been calculated. The exercise has been carried out as under:

- (a) The population of Nadigaon block was 91,977 in 1971. In 1979-80, it reached 1,03,572. Thus, the annual growth rate of population during the period 1971-80 was 1.5 per cent. Despite the operation of the family planning programme it is expected that the annual growth rate of population in Nadigaon is likely to be the same 1.5 per cent during the period 1981-86. Therefore, the estimates of population for the years 1980-81 and 1985-86 have been worked out at this rate.
- (b) An estimate of labour force should really be giving exact break-up of the workers actually employed and those seeking employment. This type of data are not available. The labour force participation ratio of Jalaun district, which was 36.26 per cent of the population of 5 years and above,<sup>1</sup> has been used to estimate

<sup>1</sup> Given by the Manpower Division, State Planning Institute, Uttar Pradesh, Lucknow.

labour force in Nadigaon block during the years 1980-81 and 1985-86.

- (c) The estimates of workers employed have been prepared by subtracting the number of unemployed from the total labour force for the year 1979-80.<sup>2</sup> The estimates of workers employed for the years 1980-81 and 1985-86 have been worked out assuming the 1979-80 ratio. The backlog of unemployment for the year 1980-81 has also been worked out.
- (d) The National Commission on Agriculture<sup>3</sup> has given norms of additional employment generation through the implementation of rural development and special area development programmes. Keeping the local conditions of Nadigaon in view, these have been suitably modified. Norms for such items on which the National Commission on Agriculture has not provided any recommendation have been worked in consultation with the specialists of the concerned functional departments.
- (e) To work out total number of jobs required at the end of 1985-86, the additional labour force likely to be generated during the period 1981-86 has been added to the

<sup>2</sup> These were collected through a primary household level census carried out in all the 142 villages of Nadigaon block.

<sup>3</sup> Government of India, National Commission on Agriculture, Report on Rural Development and Special Area Programmes, (New Delhi, 1976).

backlog of unemployment in 1980-81. Additional jobs likely to be generated as a result of implementation of the present plan, have then been deducted from this figure to know the net backlog of unemployment at the end of 1985-86.

## 6.2 Estimated Labour and Work Force

Following the foregoing methodology, the estimates of population, labour force, workers employed and backlog of unemployment in Nadigaon block during the year 1979-80, 1980-81 and 1985-86 were worked out. These are contained in Table 6.1.

Table 6.1

### Population, Labour Force, Workers Employed and Backlog of Unemployment in Nadigaon

Sl. No.	Item	Year		
		1979-80	1980-81	1985-86
1.	Population	103,572	105,125	111,339
2.	Labour Force	37,596	38,160	40,416
3.	Workers Employed	30,139	30,591	32,399
4.	Backlog of Unemployment	7,457	7,569	8,017

The implementation of the present plan is likely to generate additional employment. The scheme-wise estimates of employment likely to be generated under various sectors during the next five years along with physical targets and prescribed norms are given in Appendix II. Table 6.2 summerizes these estimates. It is seen that 3,827 persons are to gain

employment because of implementation of different schemes.

Table 6.2

Employment Generated by Proposed Schemes

Sl. No.	Sectors	Employment Generated	Percentage of Employment Generated
1.	Agriculture	661	17.3
2.	Soil Conservation	341	8.9
3.	Irrigation	604	15.8
4.	Animal Husbandry	192	5.0
5.	Industries	195	5.1
6.	Roads	1344	35.1
7.	Power	77	2.0
8.	Education	370	9.7
9.	Medical and Health	39	1.0
10.	Recreation	4	0.1
Total		3827	100.0

The percentage of unemployment to total labour force was 19.8 per cent in 1979-80. As a result of additional employment likely to be generated by the present plan this would come appreciably down to 10.4 per cent at the end of 1985-86.

## Chapter 7

### FINANCIAL OUTLAYS

#### 7.1 Magnitude of Financial Requirements

The total outlay required for the implementation of this Nadigaon plan during the next five years is Rs.507.10 lakhs. Out of this amount, Rs.310.85 lakhs (61.3 per cent) are to be provided by the state sector, Rs.150.48 lakhs (29.7 per cent) via the assorted network of financial and term-lending institutions and Rs.45.77 lakhs (9 per cent) from the contributions to be made by the beneficiaries of different proposed programmes themselves (Table 7.1). This amount may

Table 7.1

#### Sectoral Outlays

Sl. No.	Sector	Proposed Outlays (Rs. lakhs)			Percentage Outlay
		State Sector	Institutional Finance	Beneficiary Contribution	
1.	Agriculture	23.41	22.80	8.32	54.53 10.7
2.	Afforestation and Soil Conservation	20.17	-	1.25	21.42 4.2
3.	Irrigation	27.75	51.75	25.87	105.37 20.8
4.	Animal Husbandry	14.52	14.80	-	29.32 5.8
5.	Industries	14.55	29.13	7.83	51.51 10.2
6.	Roads	149.70	-	-	149.70 29.5
7.	Power	-	32.00	-	32.00 6.3
8.	Education	46.37	-	-	46.37 9.1
9.	Medical & Health	14.38	-	-	14.38 2.8
10.	Recreation	-	-	2.50	2.50 0.5
Total		310.85	150.48	45.77	507.10 100.0
Percentage		61.3	29.7	9.0	100.0

appear to be a very substantial : however, for the giantsized problems faced by Nadigaon block smaller allocations are not



likely to make much impact. The amount should, therefore, be considered essential.

## 7.2 Distribution of Outlays

A detailed scheme-wise sectoral distribution of the proposed outlays is provided in Appendix III. The summarized Table 7.1 indicates that the highest percentage (29.5) is expected to be spent on the development of roads and bridges, followed by programmes of irrigation which claim 20.8 per cent. Agriculture and industries account for 10.7 and 10.2 per cent respectively. Clustering the financial allocations under four major heads of (a) agriculture and allied, (b) industries, (c) amenities and infrastructure, and (d) social services, the percentage allocations respectively are : 41.5, 10.2, 35.8 and 12.4.

## 7.3 Sharing of State Sector Burden

Although the state sector is expected to contribute as much as Rs.310.85 lakhs, the state government could obtain priority allocations from different agencies of the central government through schematic assistance and loans. These would reduce the pressure of the demands on state funds. Excepting the investment on the roads, and social services, at least a major portion of state sector investment would in any case be recoverable since it would be given as loan assistance. It is possible to involve voluntary institutions in the establishment and qualitative improvement of the social services if the state government adopts innovative systems and

procedures as used successfully elsewhere.<sup>1</sup> This participation could assume two forms : one, where the voluntary organisations build and run these service institutions from a scratch and shoulder the entire burden from the very beginning; or, second, where the state builds them first because these have to be built within a time frame and then market it to the viable, creative, well-meaning, and capable organisations.

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<sup>1</sup> For example, social services institutions such as comprehensive three media school (cost of building alone Rs.28 lakhs), and 50 bed hospital (cost of building and equipment Rs.15 lakhs) have first been built by the planning organisation in New Bombay and then, following innovative methods, marketed to the voluntary organisation. The state cost has been recovered.



## Chapter 8

### ORGANISATIONAL STRUCTURE AND SYSTEMS

#### 8.1 Organisational Tasks of the Plan

As seen earlier, this plan envisages to make a significant change in the socio-economic profile of Nadigaon block. In pure financial terms, the task involves spending on an average over Rs.100 lakhs per year during the five year period 1981-86. Some of the recommended schemes do not require any further detailed planning : certain others, especially those on which finances have to be obtained from the specific agencies/departments of the Government of U.P./ India, project reports would need to be prepared and the concerned agencies liaised for consideration, review of schemes and sanction of funds. Another dimension of the task—spread is the high-level coordination, trouble-shooting which would have to be done at the district level, in Orai, at the divisional level in Jhansi, at the State level in Lucknow and central level in New Delhi. Altogether, the organisational task of the plan is so complex and demanding—not only in terms of time spent but also in the display and use of specialized type of knowledge and skills—that it seems to be out of the capabilities of the present organisational framework in Nadigaon headed by the BDO, and consisting of a medical officer, a veterinary assistant surgeon, five assistant development officers (in agriculture, statistics, cooperatives, panchayats, and minor irrigation), one health inspector, one compunder, ten Village Level Workers, eight Panchayat Secretaries, two stockmen, one Lady Health Visitor, four

family planning assistants, two family welfare workers, four mid-wives, and two class four employees. And yet, the present set of employees could not be packed off lock, stock and barrel, and replaced by a totally new organisational structure. It would create a totally different set of problems.

## 8.2 Suggested Organisational Structure

The suggested organisational structure for implementing the present plan is as under:

(a) The present block set up with its staff shall be retained. Only a small, three-man Project Group shall be added to the block team. The team shall continue to be headed by the BDO. These three men shall be specialists in project formulation, appraisal, and monitoring and would also be having engineering qualifications. Of the three one each would be liaising with the state and central government at various levels and the third would prepare and man an information and monitoring system at the block. He would not only liaison with the block team but would also regularly meet beneficiaries of different programmes.

(b) To facilitate better involvement of outside officials in the implementation of Nadigaon plan, functional sub-groups (i.e. agriculture, afforestation and soil conservation, minor irrigation, industries, roads and power, and social services, etc.) shall be constituted. One of the members of the Project Group, the BDO, ADO of the concerned function and district level officer of the function shall constitute these

sub-groups. The function of these groups shall be to plan, review and implement the concerned programmes. The member of Project Group shall be its convenor.

### 8.3 Organisational Systems

The Uttar Pradesh Government has done well in deciding to decentralize some financial powers to the district headquarters. To that extent, steps such as crediting of 33 per cent of plan funds early in the financial year shall be useful. However, Nadigaon plan shall need the following systems to be implemented in the expected five year period:

1. Use of a PERT/CPM information, and monitoring system at the block level to optimise resources use.
2. Increased financial powers to the block officials.  
For this, once the schemes have been approved by the government, no separate sanctions should be needed each time for similar schemes. The project officials should not be required to run endless errands just to secure administrative and financial sanctions.
3. Sanctioned funds for different schemes may be transferred to the project account and these may be operated by the block team subject to the usual rules and regulations.
4. Avoidance of unnecessary form filling, reportage from the officials manning different functions. In the past, this has cut their effective working time without yielding any useful input in terms of monitoring and review functions.

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## Appendix I

Existing Functions in the Dependent Settlements  
in Nadigaon

Location Code	Settlements	Existing Functions
1	Rudawali	- Primary School
2	Gaderna	- Primary Schools, Post Offices, Private Medical Practitioner, Junior High School
3	Magrol	- Primary School
4	Itora Madhogarh	- Primary School
5	Dabar Madhogarh	- Primary School
7	Maragpura	- Pucca Road
8	Hasupura	- Pucca Road
9	Bahbalpura	- Primary School
10	Ingui Madhogarh	- Primary School, Post Office, Junior High School
11	Sarai Madhogarh	- Nil
14	Torna	- Primary School, Pucca Road
20	Kamsara	- Primary School, Pucca Road, Bus Stop
21	Pardhani	- Primary School, Electricity, Pucca Road
29	Diha	- Primary School
32	Mahatwani-	
	Madhogarh	- Primary School
33	Dhanja	- Primary School
35	Lariyapura	- Primary School
36	Jugrajpura	- Primary School, Post Office
37	Bhagwantpura	- Nil
38	Burhali	- Primary School
40	Kanharpura	- Primary School
41	Kunwarpura-	
	Thansingh	- Nil
42	Chhiriya Khurd	- Primary School
43	Kurra	- Primary School, Pucca Road, Bus Stop
44	Umri Madhogarh	- Primary School
45	Barauli	- Primary School
46	Rora	- Primary School
47	Manpura	- Primary School, Post Office
48	Parawar	- Primary School, Post Office
49	Lahudi	- Primary School
50	Anghora	- Primary School
51	Birgawan	
	Madhogarh	- Primary School, Private Medical Practitioner
54	Parasni	- Primary School
55	Isuri	- Nil
56	Ghilor	- Primary School, Post Office
59	Ruppura	- Nil

## Appendix I (Contd.)

Location Code	Settlements	Existing Functions
60	Chandupura	- Nil
61	Dang Bhakrol	- Nil
62	Kemra	- Nil
64	Bhakrauli	- Primary School
67	Arjunpura	- Primary School
68	Kurcholi	- Primary School, Pucca Road, Junior High School
69	Sajera	- Primary School, Post Office
71	Baoli	- Primary School
72	Gidwasa	- Primary School, Nyaya Panchayat H.Q.
73	Dang Khajuri	- Nil
74	Khajuri	- Primary School
77	Alampur	- Nil
79	Lalpura	- Pucca Road
80	Sikanderpur	- Primary School, Pucca Road
81	Ganeshpura	- Pucca Road
82	Jakhela	- Nil
119	Dongerpura	- Nil
120	Rajepura	- Nil
124	Basit	- Primary School, Post Office
125	Kakroli	- Primary School
127	Salaiya Khurd	- Primary School, Junior High School
129	Mau	- Primary School
130	Kemra	- Nil
131	Singhpura	- Primary School
132	Larhupura	- Primary School
133	Pachipura Khurd	- Primary School
135	Budhera	- Nil
136	Jaganpura	- Primary School, Post Office, Nyaya Panchayat H.Q.
137	Mansukhpura	- Nil
139	Dhorpur	- Primary School
140	Mawasa	- Nil
143	Chamaruwa Khurd	- Nil
144	Barhal	- Primary School, Private Medical Practitioner
147	Beona	- Primary School, Private Medical Practitioner
149	Jaitpura	- Primary School, Private Medical Practitioner
150	Aibra	- Nil
152	Benda	- Nil
154	Dabarkonch	- Nil
155	Unchagaon	- Primary School
156	Chatsari	- Pucca Road
157	Salaiya Buzurg	- Primary School, Post Office, Pucca Road
160	Pipri Kalan	- Primary School, Pucca Road

## Appendix I (Contd.)

Location Code	Settlements	Existing Functions
161	Dhera	- Pucca Road
162	Kudaiya	- Primary School, Pucca Road
163	Padauri	- Pucca Road
252	Dhanora	- Primary School
253	Titra Khalilpur Khet	- Primary School, Electricity, Pucca Road, Junior High School
254	Khera Benda	- Pucca Road
256	Gangthara	- Primary School
257	Beona	- Primary School
259	Jhilra	- Nil
260	Ranipura	- Nil
261	Deori	- Nil
262	Chittarpura	- Nil
263	Seoni Khurd	- Primary School
264	Rura	- Nil
265	Tajpura Sani	- Primary School
267	Kherawar	- Primary School, Junior High School
268	Sulakhna	- Primary School
269	Birora	- Pucca Road
270	Bhedpura Madhogarh	- Primary School, Pucca Road
273	Hindokhra	- Electricity, Pucca Road
274	Karhahiyapur	- Electricity, Pucca Road
275	Badaua	- Primary School, Electricity, Pucca Road
276	Khoa	- Primary School
277	Rawa	- Primary School, Pucca Road
87	Mohammadpura	- Nil
88	Lahai	- Primary School
90	Sikri Buzurg	- Nil
91	Pajonia	- Primary School
92	Jawakpura	- Nil
95	Barha	- Nil
97	Seoni Buzurg	- Nil
98	Kherai	- Electricity, Pucca Road
101	Khurd	- Primary School
102	Mahalua	- Nil
103	Tumra	- Primary School, Pucca Road, Bus Stop
104	Khakal	- Pucca Road
105	Adlispura	- Electricity, Pucca Road, Bus Stop
110	Katkari Buzurg	- Primary School
112	Masudpura	- Electricity, Pucca Road, Bus Stop
113	Chak Dhai	- Electricity, Pucca Road
114	Jara	- Primary School
115	Tilokpura	- Pucca Road
116	Kailiya Khurd	- Nil

Appendix IIEmployment Generation Under Proposed Schemes

Sl. No.	Sector/Scheme	Unit	Targets	Adopted Norm (Persons)	No. of Persons to get Employment
1	2	3	4	5	6
1.	<u>Agriculture</u>				
1.1	Additional Area to be Brought Under Double/Multiple Cropping	Ha.	2,365	1 per 5 ha.	473
1.2	Additional area Under High Yielding Varieties	Ha.	3,938	1 per 26 ha.	151
1.3	Establishment of New Input Distribution Centres	No.	6	4 per unit	24
1.4	Establishment of Agro-Service Centres	No.	5	5 per full } 2 per small }	13
				Sub-Total	661
2.	<u>Soil Conservation</u>				
2.1	Cultivable Waste to be Brought Under Cultivation	Ha.	678	285 per 000 ha.	191
2.2	Afforestation of the Forest Area	Ha.	500	-do-	79
2.3	Improvement of the Cultivable Area	Ha.	250	-do-	71
				Sub-Total	341
3.	<u>Irrigation</u>				
3.1	Creation of Additional Irrigation Potential	Ha.	2,396	a) 1 per 4 ha. for construction b) 1 per 500 ha. for operation and maintenance	599 5
				Sub-Total	604

Appendix II (contd.)

1	2	3	4	5	6
4.	<u>Animal Husbandry</u>				
4.1	Distribution of Cows	No.	300	1 per 5 cows	60
4.2	Distribution of Buffaloes	No.	450	1 per 5 buf- caloes	90
4.3	Distribution of Goats	No.	900	1 per 40 goats	22
4.4	Establishment of Veterinary Hospitals	No.	2	5 per unit	10
4.5	Establishment of Stockman Centres	No.	5	2 per unit	10
				<u>Sub-Total</u>	<u>192</u>
5.	<u>Industries</u>				
5.1	Small Scale Units	No.	18	8 per unit	144
5.2	Cottage and Village Industries	No.	17	3 per unit	51
				<u>Sub-Total</u>	<u>195</u>
6.	<u>Roads</u>				
6.1	Construction of Roads	Kms.	102	17 per km.	1344
				<u>Sub-Total</u>	<u>1344</u>
7.	<u>Power</u>				
7.1	Laying of HT/LT Lines	Kms.	212	1 per 2.76 kms. of lines	77
				<u>Sub-Total</u>	<u>77</u>

Appendix II (contd.)

1	2	3	4	5	6
8.	<u>Education</u>				
8.1	Establishment of College	No.	1	52 per unit	52
8.2	Establishment of Junior High Schools	No.	1	8 per unit	8
8.3	Establishment of Higher Secondary Schools	No.	3	16 per unit	48
8.4	Qualitative Improvements	No.	131	2 per unit	262
				<u>Sub-Total</u>	<u>370</u>
9.	<u>Medical and Health Services</u>				
9.1	Establishment of MCW Centres	No.	4	3 per unit	12
9.2	Establishment of FW Centres	No.	2	6 per unit	12
9.3	Establishment of 20 Bed Hospital	No.	1	15 per unit	15
				<u>Sub-Total</u>	<u>39</u>
10.	<u>Recreational</u>				
10.1	Establishment of Touring Talkies	No.	1	4 per unit	4
				<u>Sub-Total</u>	<u>4</u>
GRAND TOTAL (1 to 10)					3827



Appendix IIIScheme-wise Break-up of Sectoral Outlays

Sl. No.	Sector/Scheme	Proposed Outlays (Rs. Lakhs)			
		State Sector	Institutional Finance	Beneficiary Contribution	Total
1	2	3	4	5	6
1.	<u>Agriculture</u>				
1.1	Distribution of Seeds and Fertilizers	15.95	12.31	7.67	35.93
1.2	Distribution of Pesticides	0.35	-	0.65	1.00
1.3	Demonstrations	0.24	-	-	0.24
1.4	Input Distribution Outlets	3.50	-	-	3.50
1.5	Agro-Service Centres	3.37	10.49	-	13.86
	Sub-Total	23.41	22.80	8.32	54.53
2.	<u>Afforestation &amp; Soil Conservation</u>				
2.1	Afforestation	10.17	-	-	10.17
2.2	Reclamation of Cultivable Waste	7.50	-	-	7.50
2.3	Improvement of Cultivated Area	2.50	-	1.25	3.75
	Sub-Total	20.17	-	1.25	21.42
3.	<u>Irrigation</u>				
3.1	Artisen Wells	1.63	3.25	1.62	6.50
3.2	Deep Bored Wells with Pumpsets	5.75	11.50	5.75	23.00
3.3	Masonry Wells with Persian Wheels	15.00	30.00	15.00	60.00
3.4	Ground Level Pumpsets	3.50	7.00	3.50	14.00
3.5	Blasting Unit	1.87	-	-	1.87
	Sub-Total	27.75	51.75	25.87	105.37

Appendix III (contd.)

1	2	3	4	5	6
<u>4. Animal Husbandry</u>					
4.1 Distribution of Cows		2.00	4.00	-	6.00
4.2 Distribution of Buffaloes		4.50	9.00	-	13.00
4.3 Distribution of Stud Bulls		1.00	-	-	1.00
4.4 Fodder Scheme		0.13	-	-	0.13
4.5 Distribution of Goats		1.80	1.80	-	3.60
4.6 Distribution of Bucks		0.09	-	-	0.09
4.7 Establishment of Veterinary Hospitals		2.50	-	-	2.50
4.8 Establishment of Stockman Centres		2.50	-	-	2.50
Sub-Total		14.52	14.80	-	29.32
<u>5. Industries</u>					
5.1 Small Scale Units		12.52	25.06	5.80	43.38
5.2 Cottage and Village Industries		2.03	4.07	2.03	8.13
Sub-Total		14.55	29.13	7.83	51.51
<u>6. Roads</u>					
6.1 Construction of New Road		28.00	-	-	28.00
6.2 Kankar laying of existing roads		121.70	-	-	121.70
Sub-Total		149.70	-	-	149.70
<u>7. Power</u>					
7.1 Laying of HT/LT Grid		-	24.00	-	24.00
7.2 Connecting 40 Villages		-	8.00	-	8.00
Sub-Total		-	32.00	-	32.00



Appendix III (Contd.)

1	2	3	4	5	6
<u>8. Education</u>					
8.1 Establishment of Junior High Schools		1.37	-	-	1.37
8.2 Establishment of Higher Secondary Schools		12.00	-	-	12.00
8.3 Establishment of Degree College		18.00	-	-	18.00
8.4 Quality Improvement Scheme		15.00	-	-	15.00
Sub-Total		46.37	-	-	46.37
<u>9. Medical &amp; Health Services</u>					
9.1 Establishment of MCW Centres		3.75	-	-	3.75
9.2 Establishment of FW Centres		1.88	-	-	1.88
9.3 Establishment of 20 Bed Hospital		8.75	-	-	8.75
Sub-Total		14.38	-	-	14.38
<u>10. Recreational</u>					
10.1 Establishment of Touring Talkies		-	-	2.50	2.50
Sub-Total		-	-	2.50	2.50
GRAND TOTAL (1 to 10)		310.85	150.48	45.77	507.10